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## A NEW METHOD OF GRADING MILK AND CREAM.

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That the score card has been of service in the improvement of sanitary conditions on dairy farms, possibly few will deny. It has failed, however, with respect to one most important feature of milk control inasmuch as it does not afford a sufficient basis upon which to found an opinion as to the wholesomeness and nutritive value of milk as it reaches the consumer. And if the scores of dairy farms give but an imperfect idea of the quality of the milk as it reaches the consumer, an attempted study of a series of scores of dairy farms and milk shops, chemical analyses and bacteriological analyses leaves the inquirer who is not technically skilled with respect to the matter in a dazed and quite helpless condition. In order to enable the consumer to determine the quality of the milk he is purchasing, the health department of the District of Columbia has devised a method for grading the finished product.

*Essentials of the grading of milk.*—Any ideal system of grading milk as delivered to the consumer must take into consideration the condition of all of the farms from which milk is or is liable to be derived, the condition of the milk shop from which it is distributed, the chemical analysis of the milk, and the bacteriological analysis. The result must be expressed in a manner easily understood by the public and in a way that will afford ready and fair comparison between milk from any number of sources.

*Method of grading.*—The method of grading milk adopted by the health department of the District of Columbia is as follows: 100 points are allowed for the dairy farm, both equipment and management; 100 points are allowed for the cattle; 100 points are allowed for the milk-distributing station, if the milk is not distributed directly from the farm; 100 points are allowed for the chemical analysis; and 200 points are allowed for the bacteriological examination. The total number of possible points is 600 if there be a milk-distributing station, and 500

if there be no such station. By dividing the total number of points allowed by the total number of points possible a figure is obtained in the form of a decimal fraction representing the grade of the milk. Any unusual conditions bearing upon the nutritive quality of the milk or on its wholesomeness, but not susceptible of being reduced to a percentage basis, are to be set forth in an explanatory note, if the grade is computed during the continuance of such conditions; such, for instance, as a milk-borne outbreak of typhoid fever or other contagious disease.

*Rating the cattle.*—For a number of years past the health department of the District of Columbia has scored health and cleanliness of cattle independently of the general score for management and equipment of the dairy farm, allowing 100 points for each. It has seemed to the department that under the method of scoring ordinarily adopted, enough weight is not allowed for the health of cattle nor enough latitude for variations in their healthfulness and cleanliness. But while the system of scoring cattle independently of farm management and equipment facilitates the scoring of milk in the manner herein described, yet with a simple mathematical adjustment the method can be used anywhere.

When the milk distributed through a given establishment comes from but one farm, the determination of the rating to be assigned to the cattle is a simple matter, requiring merely the finding of the average of the scores given the cattle at a series of inspections by the dairy-farm inspectors. But in every large milk-distributing establishment the milk comes from many farms, and these farms vary widely in the number and condition of the cattle maintained for dairy purposes. The milk distributed from such an establishment is a composite of the milk from all of the contributing farms. The influence of each farm on the composite mixture, however, is not equal, but depends upon the proportion and quality of the milk it contributes as compared with the whole output. For practical purposes the proportion of milk supplied may be regarded as determined by the number of cows maintained. The method adopted, therefore, allows weight to the score for each dairy herd proportionate to the number of cattle it contains. The score for the herd on each farm is multiplied by the number of cattle in it. The total number of cattle in all contributing herds is learned by reference to the dairy-farm records. Then all of the scores, multiplied as above described, are added, and the sum thus obtained is divided by the total number of cattle. The quotient is the rating for the cattle.

The method may best be understood by a simple illustration. Producers A, B, and C all send their milk to Dairy No. 342. A has 100 cows, scored 100. B has 50 cows, scored 80. C has 10 cows,

scored 40. To determine the rating to be allowed for the cattle in computing the final score:

Producer.

A.....	(number of cattle) 100 (multiplied by score) 100=10,000
B.....	(number of cattle) 50 (multiplied by score) 80= 4,000
C.....	(number of cattle) 10 (multiplied by score) 40= 400
	<hr/>
	160 <span style="float:right">14,400</span>

Dividing the sum of the multiplied score, 14,400, by the total number of cattle, 160, the quotient is 90, the rating to be allowed for the cattle in determining the grade of milk distributed by the common distributing agency, Dairy No. 342.

The significance of the method is best understood by supposing that the 100 cows on the farm of A were scored 40 instead of 100 and the 10 cows on the farm of C were scored 100 instead of 40, the score for B's herd remaining the same. The resulting rating would then be as follows, notwithstanding the fact that the milk would still come from exactly the same number of cows, on the same farms, with the same ratings, viz, 40, 80, and 100.

Producer.

A.....	(number of cattle) 100 (multiplied by score) 40=4,000
B.....	(number of cattle) 50 (multiplied by score) 80=4,000
C.....	(number of cattle) 10 (multiplied by score) 100=1,000
	<hr/>
	160 <span style="float:right">9,000</span>

Dividing the sum of the multiplied scores, 9,000, by the total number of cattle, 160, the quotient is 56.25, the rating for the cattle in determining the grade of the composite milk output.

If the simple method of averaging the scores of all herds without reference to the number of cattle in each had been adopted, the rating would have been the same in each instance: (Score 100, plus score 80, plus score 40) divided by the number of herds, 3, equals 73.33.

The method of rating the cattle has been described at some length and enlarged upon by illustrations in order that it may be made perfectly clear. The elaboration may possibly have served to convey the impression that the method is complicated, but a few minutes' study of it will show that such is not the case. The application of the method to any considerable number of dairy-herd ratings will, however, certainly be tedious unless the records have been kept especially for the purpose of facilitating such computations. This department has devised a system of record keeping, illustrated in the table on page —, that is expected to facilitate the making of such computations in the future. In the meantime, in determining the rating of the cattle furnishing milk to any particular distributing establishment, the department will not undertake to consider the score for every dairy farm but only for a number representing a fair average, say five, selected at random.

If on any farm a substantially new herd is obtained, as when a herd is tuberculin-tested and all "reactors" are eliminated from it, the rating for dairy cattle is based solely on scores for the new or renovated herd.

*Rating of the dairy farm.*—What has been said with reference to the determination of the rating to be assigned to the cattle applies with equal force to the determination of the rating for the equipment and management of the dairy farm. Due weight must be allowed for the amount of milk that each farm supplies, and this can be done in the same way as weight is allowed for the score for health and cleanliness of cattle, pointed out in the preceding paragraphs.

*Rating of dairies.*—The term "dairy" in the District of Columbia is regarded as meaning merely the place from which the milk is distributed within the city. As every establishment is scored on the basis of 100, it is necessary merely to take a number of scores of the dairy under consideration sufficient to be fairly representative, say three, and to find the average.

*Rating of chemical analyses.*—The value of the chemical analysis of milk lies in the fact that it shows the food value. Cases of deliberate watering are in this jurisdiction rare, and the use of preservatives and coloring matter is practically unknown. In order that the results of chemical analyses may be used in the grading of the milk, it is necessary to reduce them to a scale, with 100 as a maximum. As the nutritive value of milk is determined by the total solids, the scale adopted by the health department is based upon the percentage of total solids and not upon the fat. The scale is as follows:

*Scheme for rating chemical analyses.*

Total solids:	Rating.
11 per cent or less.....	0
More than 11 per cent but not more than 12 per cent.....	40
More than 12 per cent but not more than 12.50 per cent.....	60
More than 12.50 per cent but not more than 12.75 per cent.....	70
More than 12.75 per cent but not more than 13 per cent.....	80
More than 13 per cent but not more than 13.25 per cent.....	90
More than 13.25 per cent.....	100

If any sample contains added water, deduct 40 points. For milk containing preservatives of any sort deduct the entire chemical rating, and give zero for the bacteriological rating immediately preceding the finding of the preservatives. The average rating of not less than three consecutive analyses is to be taken.

*Rating of bacteriological analysis.*—In determining the grade of the milk as sold, 200 points are allowed for bacteriological analysis. As some bacteria are found in all milk in the ordinary channels of trade and may, therefore, be looked upon as commercially normal, the primary rating takes into consideration merely the total bacterial count. Bacilli of the colon group and streptococci are, however,



looked upon as foreign to wholesome milk, and for their presence certain deductions are made from the rating allowed on the basis of the total bacterial count alone. The remainder represents the absolute rating for the bacteriological examination of the milk. The standards adopted are as follows:

*Rating for bacteriological findings.*

Raw milk.	Pasteurized milk.	Points allowed.
5,000,000 and upward.....	100,000 and upward.....	0
4,000,000 to 5,000,000.....	90,000 to 100,000.....	20
3,000,000 to 4,000,000.....	80,000 to 90,000.....	40
2,000,000 to 3,000,000.....	70,000 to 80,000.....	60
1,000,000 to 2,000,000.....	60,000 to 70,000.....	80
500,000 to 1,000,000.....	50,000 to 60,000.....	100
400,000 to 500,000.....	40,000 to 50,000.....	120
300,000 to 400,000.....	35,000 to 40,000.....	140
200,000 to 300,000.....	30,000 to 35,000.....	160
100,000 to 200,000.....	25,000 to 30,000.....	170
50,000 to 100,000.....	20,000 to 25,000.....	180
25,000 to 50,000.....	15,000 to 20,000.....	190
10,000 to 25,000.....	10,000 to 15,000.....	195
Less than 10,000.....	Less than 10,000.....	200
<p>For the first 1,000 colonies of the colon group or streptococci, whichever may be the more numerous, deduct 20 points and deduct 10 points for each subsequent 1,000.</p>		<p>For the first 100 colonies of the colon group or streptococci, whichever may be the more numerous, deduct 10 points, and deduct 2 points for each subsequent 100.</p>

It will be noted that the foregoing plan for the evaluation of the bacteriological findings lays down a basis for raw milk different from that for pasteurized milk. This is undoubtedly fair when the ratings of two or more samples of milk of the same class are to be compared, but it would be manifestly unjust to compare such a rating of raw milk with a rating of pasteurized milk unless this difference were taken into consideration. In order to prevent such unfair comparisons, ratings for pasteurized milk should be accompanied always by some descriptive term, say the word "pasteurized," and if it be desired to compare the ratings of pasteurized milk with a rating of raw milk, both should be scored on the same basis, preferably that for raw milk.

Hypothetical cases may easily be conceived in which the scales laid down above would give figures manifestly misleading, and possibly such cases may be found in practice. Such would be a case in which the colonies of the colon group or the streptococci were numerous while the general bacterial count was very low. A fair examination of a reasonable number of entries in the records of this department, however, failed to reveal any instances of this kind.

In any case the average rating of not less than three consecutive analyses is to be taken.

*Examples.*—As an illustration of the way in which the method of scoring described above works out in practice, the following examples are given from the records of this department:

*Health Department of the District of Columbia—Dairy record.*

DAIRY NO. 1. LICENSEE: JOHN DOE. RAW MILK.

Date.	Dairy farm.				Dairy score.	Chemical analysis.		Bacteriological analysis.				Remarks.
	Farm No.	No. cattle.	Cattle score.	Farm score.		Total solids.	Rating.	Total count.	Colon.	Streptococci.	Rating.	
1912.												
Apr. 27.						13.32	100					
May 29.	934	200	100	99.3								
Oct. 9.					86.61							
Nov. 7.					84.68							
Nov. 25.								2,100	0	0	200	
Dec. 7.	934	160	100	98.0				5,000	0	0	200	
Dec. 21.												
1913.												
Jan. 10.	934	150	100	98.5								
Jan. 11.					86.21							
Jan. 14.						13.54	100					
Jan. 14.						13.32	100					
Jan. 31.								2,800	0	0	200	
Ratings for milk Feb. 10.			100	98.6	85.2		100				200	

Grade for output of Dairy No. 1, John Doe, proprietor, 97.3.

NOTE.—This is the grading for a special milk, sold for more than twice as much as ordinary market milk.

DAIRY NO. 2. LICENSEE: RICHARD ROE. PASTEURIZED MILK.

1912.												
July 11.	1327	63	70	68.2								
Sept. 19.	1764	40	100	84								
Oct. 11.					99.85							
Nov. 12.					99.63							
Nov. 12.						13.32	100					
Nov. 13.						13.08	90					
Dec. 4.	4945	15	70	68.0								
Dec. 24.	383	21	67	60.5								
1913.												
Jan. 3.								21,000	200	100	168	
Jan. 14.								5,000	0	0	200	
Jan. 15.					99.78							
Jan. 19.								3,000	0	0	200	
Jan. 24.	763	29	66	41.7								
Jan. 30.						13.17	90					
Ratings for milk Feb. 10.			75.4	66.4	99.7		93.3				189.3	

Grade for pasteurized milk sold by Dairy No. 2, Richard Roe, proprietor, 85.

*Rating of cream.*—While no chemical or bacteriological standards have been laid down for cream and other milk products, the method of grading described above may readily be applied to them, proper scales being first established for chemical and bacteriological data.

*Conclusions.*—The method of determining the nutritive value of milk and its wholesomeness and of expressing them in a single figure, as described in this article, is not perfect or final; it will be improved

as the result of the future experience of the writer and of others. It is believed, however, to mark an advance in the supervision and control of the milk supply in that it enables the supervising officer to give to any consumer definite and easily understandable information as to the relative nutritive value and wholesomeness of milk from different sources in the very form in which the milk from each may be expected to reach the consumer. The method is applicable to any grade of milk, from certified milk to "cooking" milk, and prices may be fixed according to the grade of the milk furnished, without any formal "certification" as the term is now understood, and without any official "classification."

As the method of scoring herein proposed becomes familiar to the consuming public, of all milk selling at a given price that milk will be most in demand which has the highest rating, and if circumstances make it expedient to increase the price of milk, a dealer, if his milk has a high grade, can logically refer to that fact in justification of the increase. To every dealer who desires to increase his business and to every dealer who wants to raise his price—and this would seem to include all dealers whatsoever—a high grading of his output becomes of commercial value. Clearly, however, in order to obtain a high grading for his milk as he delivers it to the consumer the dealer will not only have to see that the milk is carefully handled after it comes into his possession, but will have to obtain it in the first instance from farms that score high. The dealer, therefore, will have to keep in closer touch than heretofore with farms that produce milk for him. A good farm score becomes then also of commercial value, since such a score sustains the grade of the milk as delivered, while a low farm score pulls it down; and it becomes of more interest to the farmer than it now is to conduct his farm in such a manner as to obtain the highest score possible.

The method of grading milk herein proposed reduces to a minimum the influence of the personal equation. The scoring of a single farm by the same dairy farm inspector at different times or, as will most commonly be the case, the scoring of different farms by different inspectors at different times, and the scoring of the dairy or milk shop at still different times and by other inspectors, will reduce the personal equation very much; and with respect to all, except possibly the very last score, that will be taken into consideration when any given milk grade is computed, the interested farmer or milk dealer will have opportunity to appeal from the inspector to the higher supervising officer before the score enters into the grading. Chemical analyses will, moreover, presumably be made by one person and bacteriological examinations by another, and as three or more of each of these will enter into the final grading, it may be possible even that two or more chemists and two or more bacteriologists will

participate in the work. Certainly, then, personality can have but a minimum influence in determining the final grade—that is, if we except the influence of the personality of the milk producer and the milk dealer in each conducting his business as it should be conducted.

As the records of the department have not been arranged with a view to the grading of milk in the manner proposed in this article, the computing of milk grades will for a time be troublesome. The rearrangement of the system of record keeping in such a manner as to facilitate in the future the computation of milk grades will involve, however, no great difficulty. A tentative arrangement is shown in the specimen gradings which appear on page 338, figures from actual records having been transferred to the form of record which it is proposed to keep. Figures are to be entered on such a proposed record daily as they come in from the inspectors and from the laboratories, but it will be necessary to compute ratings for the milk only when request is made, or otherwise at stated intervals, say monthly, or quarterly. The results of such periodical computations should be communicated to the milk dealer primarily interested for his information and guidance, and such a course will be followed if clerical assistance be available for that purpose.

While the grading of milk in the manner described in this article will consume some time and, therefore, add to the cost of the milk inspection service, it will make of practical value many reports and figures now collected at a considerable cost, and then buried in the official records without affording a basis for intelligent action by the milk supervising authority or, what is even more important, for intelligent action by the consuming public, which, after all, is in supreme control of the milk situation.

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## SMALLPOX IN KENTUCKY.

### A REPORT OF AN INVESTIGATION OF THE PREVALENCE OF THE DISEASE AT POINTS ON THE GREEN RIVER.

By TALIAFERRO CLARK, Surgeon, United States Public Health Service.

At the request of the Kentucky State Board of Health, I was directed by the Surgeon General to proceed to points on the Green River to investigate the smallpox situation and to advise with local health authorities relative to its control.

Leaving Evansville, Ind., February 3, 1913, I visited the following counties: Hopkins, McLean, Butler, Ohio, Grayson, Muhlenburg, and Daviess.

The investigation was completed at Owensboro, Ky., February 10, 1913.

## NATURE OF THE OUTBREAK.

The present outbreak of smallpox in Kentucky is characterized by its remarkable mildness. The eruption in the vast majority of the cases is scant. The onset of the disease is attended with a feeling of malaise for two or three days, with slight fever, rather severe headache and backache. In children the onset is often associated with an attack of vomiting. On the appearance of the eruption these symptoms subside and the patients feel as well as ever. To such a degree is this the case that children do not remain in the house, but play out of doors, and adults are tempted to and even do evade quarantine.

Some severe cases with grave prognosis have been reported, but these are few in number. In fact, so mild is the type of smallpox in this epidemic that no apprehension is felt by the people, which adds not a little to the burden of the health authorities in the enforcement of quarantine regulations.

## DURATION OF THE OUTBREAK.

Sporadic cases of smallpox have been observed at points on the Green River and vicinity since last spring. One case was reported at Owensboro in April, 1912. About two years ago an outbreak occurred at Millerstown, Grayson County, with the development of 50 cases of smallpox, which was at first mistaken for chickenpox.

There is no doubt that smallpox has been prevailing at places near Green River for a year or more, and possibly much longer. Many of these cases were not reported nor properly diagnosed by reason of the mildness of the attack.

A negro boatman, now in the Marine Hospital, Evansville, Ind., states that he was removed from a river boat last summer, while suffering with smallpox, and isolated at Morgantown, Butler County, Ky.; and Dr. Tichnor reported that 20 cases of smallpox occurred in 7 families at Point Pleasant, Hartford, and Centertown, Ohio County, during March and April, 1912.

## ORIGIN OF THE EPIDEMIC.

By reason of the mildness of the disease in the present epidemic the earlier cases were unrecognized and unreported. Hence no reliable data, on account of lapse of time since the beginning of the outbreak, could be obtained pointing to the original source of infection.

Many patients in Butler County, mostly young laboring men, gave the source of infection as the Illinois Central Railroad.

It appears that the Illinois Central Railroad operates a work train hauling crossties from various points in Grayson, Ohio, and other



counties within the State. Attached to this train are several boarding cars in which these men claim cases of smallpox have developed. As soon as these facts were ascertained and the train was located the secretary of the State board of health was communicated with by telephone and the situation presented for his control. This train operates wholly within the State of Kentucky and is not engaged in interstate traffic.

The first cases are claimed to have been imported into Ohio and Grayson Counties from Louisville, Owensboro, and Evansville, but no definite proof of this assertion could be obtained.

The only case reported in McLean County was contracted in Daviess County.

#### PREVALENCE.

*Ashbysburg, Hopkins County.*—Only two cases of smallpox developed at this point, one in a child of 6 years of age, January 2, 1913, and the other in an adult, January 10, 1913. Both cases were promptly isolated and had recovered before my arrival. The source of infection of these cases could not be determined.

About January 13, nearly 1,200 refugees from homes flooded by the overflow of Green River were congregated on the hills in and about Ashbysburg. Three or four families were crowded into one house—conditions most favorable for a spread of smallpox—yet no other case developed.

*McLean County.*—Dr. Hugh Gates, secretary of the county board of health, reported but one case of smallpox in McLean County, which developed at Beach Grove February 5, 1913. This case contracted the disease in Daviess County, and is in strict quarantine.

*Butler County.*—Dr. Austin, secretary of the county board of health, reported 44 cases of smallpox in the vicinity of Tilford, Butler County, near the Grayson County line. These cases represent 19 infected houses. At Aberdeen,  $1\frac{1}{2}$  miles from Morgantown, on the north shore of Green River, is one family with five cases of smallpox. Strict quarantine measures are being enforced and the Butler County grand jury returned indictments against 14 persons on February 7 for violation of quarantine ordinances. The Kentucky law provides a penalty of \$100 to \$1,000 for such violation. This action of the Butler County grand jury will very probably result in a much closer observance of quarantine. The first case of smallpox was reported November 14, 1912, the last February 6, 1913. Many of the patients claim the disease was contracted at points along the Illinois Central Railroad in Grayson County.

*Ohio County.*—Smallpox has been reported from the following places in Ohio County:

Place.	Number cases.	Number families.	First case.	Last case.
Centertown.....	30	10	Jan. 15, 1913	Feb. 8, 1913
Olaton.....	18	6	.....	Feb. 5, 1913
Pleasant Ridge.....	6	4	Jan. 10, 1913	Jan. 28, 1913
Rockport.....	23	11	Jan. 15, 1913	Feb. 8, 1913
Taylor's Mine.....	7	4	Nov. 1912	Dec., 1912
Total.....	84	35		

*Grayson County.*—Smallpox was reported from the following points:

Place.	Number cases.	Number families.	First case.	Last case.
Clarkson.....	5	3	Dec. 15, 1912	Feb. 3, 1913
Goff's Crossing.....	6	6	Jan. 20, 1913	Feb. 5, 1913
Leitchfield.....	15	6	Dec. 27, 1912	Jan. 23, 1913
Spring Lick.....	6	6	.....	.....
West Clifty.....	10	3	Dec. 15, 1912	Jan. 29, 1913
Yeaman.....	3	1	.....	.....
Total.....	55	25		

*Muhlenburg County.*—At Central City Dr. J. M. Ferguson, city health officer, reported four cases of smallpox. The first case developed December 18, 1912, and the last January 20, 1913. During the first week in January, 1913, one case each was reported from Penrod, Powderly, and Greenville, Muhlenburg County.

*Daviess County.*—The following cases of smallpox were reported by Dr. J. W. Barnhill, city health officer, Owensboro, Ky.:

Time.	Cases.	Time.	Cases.
April 12, 1912.....	1	November, 1912.....	5
May 1, 1912.....	1	December, 1912.....	9
June, 1912.....	10	January, 1913.....	8
July, 1912.....	6	February (to date of visit).....	2
August, 1912.....	1	Total.....	50
September, 1912.....	2		
October, 1912.....	5		

Dr. L. G. Armendt, county health officer, reported as follows:

Place.	Cases.	Families having cases.	Date of last case.
Byrnes's farm.....	5	1	Nov. 20, 1912
Curdsville.....	6	2	Feb. 5, 1913
Dr. Medlar's farm.....	1	1	Dec. 10, 1912
Knoxville.....	2	1	Jan. 28, 1913
Lewis Station.....	1	1	Jan. 15, 1913
Masonville and vicinity.....	16	5	Feb. 1, 1913
Rome.....	15	4	Jan. 25, 1913
Sutherland.....	10	2	Jan. 1, 1913
Tuck.....	12	3	Jan. 5, 1913
Vicinity of Owensboro.....	4	.....	.....
Total.....	72	29	

The foregoing reports reveal a rather widespread prevalence of smallpox in the northern section of the Green River watershed. The greatest number of cases were reported from Daviess, Ohio, Grayson, and Butler Counties. The vicinity of the junction of these last three counties was the seat of the greatest smallpox activity, and it likewise offers the greatest obstacles to control, by reason of the hostile attitude of the resident population as regards any measures directed toward that end.

#### INFLUENCES FAVORING THE SPREAD OF SMALLPOX IN THIS SECTION.

*Type of the disease.*—Smallpox is so mild in its manifestations during the present outbreak that people are not afraid of it and therefore are disinclined to observe proper precautions to prevent its spread. Especially is this true with respect to vaccination, concealment of cases, and attempts to evade quarantine.

The benign type of the disease is also accountable for the failure to detect the earliest cases. Indeed, smallpox had almost attained the proportion of an epidemic before many physicians diagnosed the disease correctly and commenced reporting cases.

*Vaccination.*—Fully 90 per cent of the people in the territory included in this survey are unprotected by recent vaccination. Approximately 75 per cent, at least, have never been vaccinated.

At Ashbysburg I examined eight families of flood refugees dwelling in tents, 53 people in all. Of these, 52 had never been vaccinated. One adult had been vaccinated when a small child. Among 30 other people, only 5 had ever been vaccinated, and these not recently.<sup>1</sup>

The same lack of vaccination was found at many points visited. This is due to the refusal of these people to be vaccinated. Many, in fact nearly all of them, say they would rather have an attack of smallpox than be vaccinated.

*Incomplete quarantine.*—In rural communities it is a difficult matter to enforce strict quarantine, especially against a disease of which the people are not afraid. Many instances are reported of cases in the eruptive stage breaking quarantine. The recent indictment of 14 persons for violation of quarantine ordinances by the Butler County grand jury will doubtless put an end to this practice.

*Concealment of cases.*—The total number of cases of smallpox reported in the course of this survey is only an approximate estimate of the present prevalence of smallpox. In spite of the penalty attached for each offense, under the Kentucky statutes, it is believed many cases of smallpox have been and are now concealed from the health authorities.

<sup>1</sup> Kentucky has a statute requiring all persons to be vaccinated.

*Contacts.*—The regulations of the Kentucky State Board of Health impose a quarantine of 21 days on all persons who have been exposed to smallpox. Rebellion against this long quarantine caused nearly all "contacts" to conceal the fact of exposure and adds materially to the difficulties attending measures for control of the epidemic.

## STOMOXYS CALCITRANS LINN.

### A NOTE GIVING A SUMMARY OF ITS LIFE HISTORY.

By M. B. MITZMAIN, Entomologist, Bureau of Agriculture, Philippine Islands.

The recent findings of laboratory workers concerning the possibility of the transmission of poliomyelitis by the stable fly, *Stomoxys calcitrans*, makes of interest the life history of this insect. An account of my two years' experience with this fly has been prepared for publication elsewhere. The following, however, is a brief summary giving the essential features:

#### SUMMARY OF FACTS ESTABLISHED.

1. The age at which the female begins egg laying has been determined in bred flies as the ninth day.
2. The maximum number of eggs produced by a single *Stomoxys* may be placed at, at least, 632 and possibly 820. As many as 20 depositions are made in the lifetime of a female. The maximum number of eggs deposited at one period was found to be 94.
3. The incubation period for these eggs is 20 to 26 hours at a temperature of 29° C. to 31° C.
4. The larval stage under favorable conditions is usually 7 to 8 days.
5. The imago emerges from the puparium generally in 5 days.
6. The fly of either sex takes its initial bite in 6 to 8 hours after emergence from the puparium. Flies of this species have been observed to feed experimentally on 17 species of vertebrates including man, reptile, bird, and rodent.
7. It has been demonstrated that in feeding on live stock *Stomoxys* probes a wound with its labium from which nonbiting flies draw blood. Surra organisms have been demonstrated in the mouth parts and stomachs of house flies used in experiments in this connection.
8. In considering the longevity of *Stomoxys calcitrans* it has been determined that a female can live a maximum of at least 72 days and a male a period of 94 days.
9. The life cycle of *calcitrans*, as seen by the following chart, varies considerably according to the treatment the young forms receive. Under optimum conditions this is a period of 12 days, but under unfavorable surroundings in light and absence of moisture, the life cycle may be extended to 35 days.

## LIFE HISTORY OF STOMOXYS CALCITRANS LINN. AT VARIOUS PERIODS UNDER FAVORABLE AND UNFAVORABLE CONDITIONS.

Date of oviposition.	Incubation period.	Larva stage.	Pupa stage.	Life cycle.	Conditions of development.
	Days.	Days.	Days.	Days.	
Feb. 7.....	2	26	6	35	Medium of dry horse manure left in light of the room.
17.....	2	14	7	23	
23.....	2	11	6	19	Do.
23.....	1	13	5	19	Do.
Apr. 7.....	2	14	6	22	Do.
June 14.....	1	8	5	14	Medium of moist horse manure and corn meal.
Aug. 10.....	1	9	5½	15½	Medium of moist horse manure and bran.
Oct. 1.....	1	7	5	13	Medium of moist guinea-pig manure mixed with chopped guinea grass.
12.....	1	9	5	15	Medium of moist horse manure and layers of filter paper.
23.....	1	6	5	12	Medium of carabao and horse manure placed in a barrel shaded at all hours, outdoors.

<sup>1</sup> From this brood several flies emerged one month after egg laying.

NOTE.—The last five cultures, but one, were developed in open jars in an airy closet, darkened in all hours, at a temperature of an average of 30° C.

## QUARANTINE INSTRUCTIONS.

## FUMIGATION OF VESSELS TO PREVENT THE SPREAD OF PLAGUE.

FEBRUARY 15, 1913.

*To medical officers in command, acting assistant surgeons in charge, national quarantine stations, and others concerned:*

This letter is intended to replace bureau letters of August 9, 1912, September 25, 1912, October 8, 1912, November 18, 1912, and January 20, 1913.

Vessels from the following ports are to be fumigated throughout for the destruction of rats upon their arrival at United States ports and the masters of said vessels are to be directed in writing to have all lines or hawsers leading to shore protected by rat guards, when such vessels are lying at United States ports, all gangplanks to be raised at night unless men be stationed near by to destroy escaping rats.

1. All ports in South America, including the river ports thereof.
2. All ports in Africa (including the Azores, Canary Islands, Cape Verde Islands, and Madeira).
3. All ports in Asia (including those of the Straits Settlements, Japan, the Philippine Islands, and the Malay Archipelago).

Vessels from the following ports are to be fumigated throughout for the destruction of rats upon their arrival at United States ports, as often as once every four months, unless there are quarantine reasons where fumigation should be made more often.

1. West Indian ports, including Cuban ports, but not including Porto Rican ports.



The traffic from Porto Rican ports is subject to special outgoing quarantine regulations, which are frequently modified to meet existing sanitary conditions.

Until further notice vessels from Liverpool are exempt from routine restrictions and are to be treated as indicated under the general quarantine regulations.

Fumigation of vessels from ports in Australia may be limited to the provisions of paragraph 112, page 39, United States quarantine regulations of 1910, and the certificates of fumigation of the Australian quarantine officials may be accepted when presented in compliance with the above-mentioned paragraph.

Special outgoing quarantine regulations for San Juan, P. R., in force since November 15, 1912.

1. Loading and unloading of freight permitted, day and night, if from rat-proof wharves under service supervision.

2. Stored fruit allowed shipped, provided the place of storage has been a rat-proof wharf or warehouse; fumigation of vessels limited to once every three months.

Special regulations in effect at Habana, Cuba.

1. All regular line vessels to be fumigated once every four months.

2. Ward line vessels in the Mexico-Habana-New York trade will be fumigated in New York every four months, when empty, and must present a special certificate of fumigation.

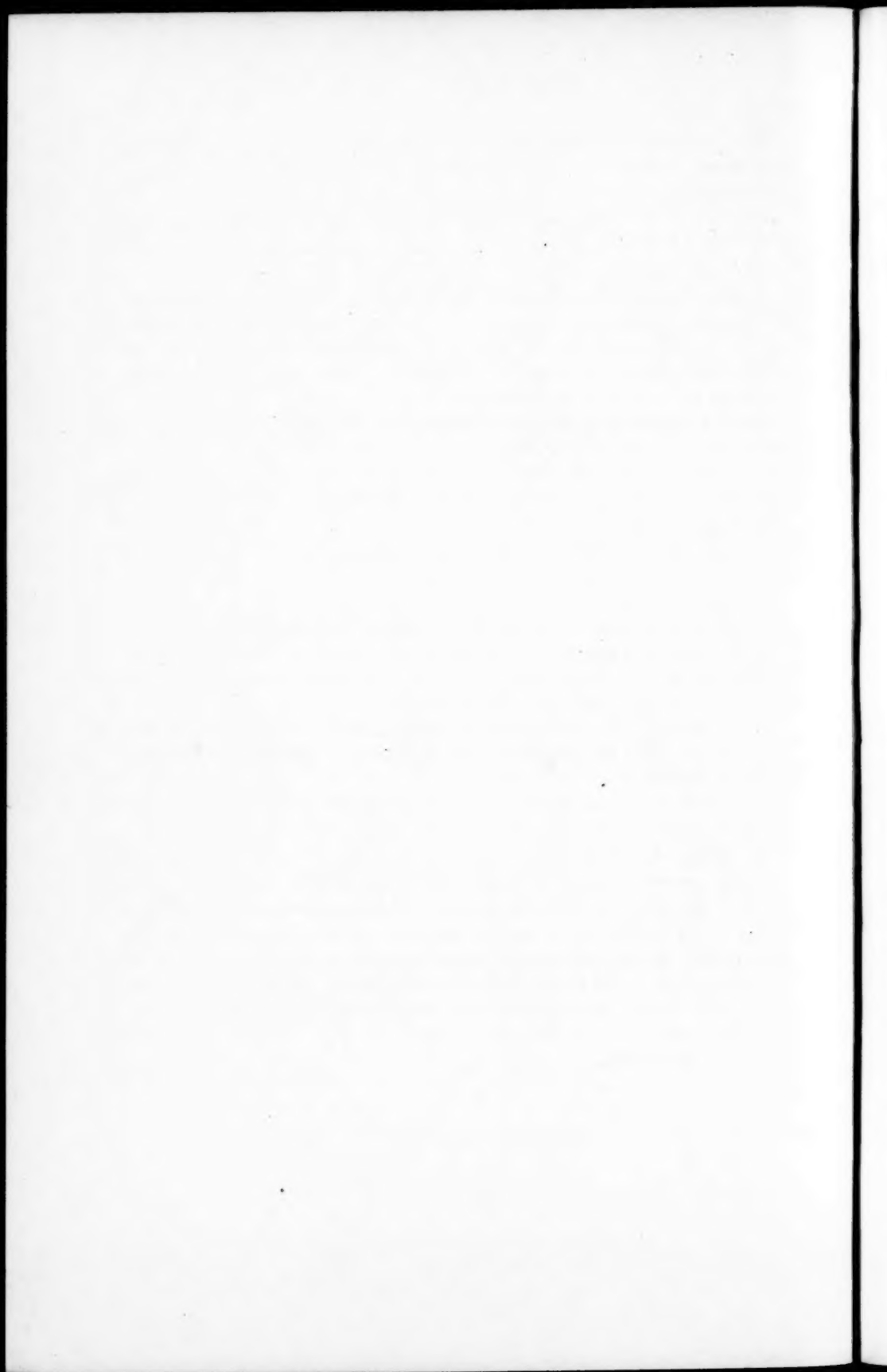
3. No articles of merchandise so packed as to be liable to harbor rats may be allowed shipment, unless repacked or fumigated under medical supervision.

4. Vessels leaving Habana will be fumigated more often than once every four months if there be a quarantine necessity therefor, or else if inspection shows rat infestation.

NOTE.—Vessels carrying perishable cargoes unless contraindicated by their general sanitary status may be given provisional pratique and allowed to proceed to the wharf, there to remove said perishable cargo, prior to the process of fumigation, the vessel, however, to be protected during the removal of such perishable cargo by the use of rat guards and precautions, such as the raising of gangplanks to prevent the escape of rats from the vessels.

Respectfully,

RUPERT BLUE,  
*Surgeon General.*



# PREVALENCE OF DISEASE.

## IN CERTAIN STATES AND CITIES.

### SMALLPOX.

State Reports for January, 1913.

Place.	Number of new cases reported during month.	Deaths.	Vaccination history of cases.			
			Number vaccinated within 7 years preceding attack.	Number last vaccinated more than 7 years preceding attack.	Number never successfully vaccinated.	Vaccination history not obtained or uncertain.
Maryland, exclusive of Baltimore city:						
Allegany County—						
Cumberland.....	3				3	
Reynolds.....	1				1	
Near Cumberland.....	1				1	
Near Midland.....	3				3	
Bier.....	1				1	
Westernport.....	7				7	
Piedmont, rural free delivery.....	1				1	
Baltimore County—						
Hamilton.....	3				3	
Garrett County—						
Gorman post office.....	6				6	
Bloomington.....	7	1			7	
Near Deer Park.....	1				1	
Total.....	34	1			34	
Wisconsin:						
Barron County.....	1					1
Brown County.....	35				7	28
Buffalo County.....	15				3	12
Chippewa County.....	1					1
Clark County.....	1			1		
Columbia County.....	3					3
Douglas County.....	1					1
Dunn County.....	11				11	
Iowa County.....	1					1
Jefferson County.....	10			3	3	4
La Crosse County.....	26			4	22	
Marathon County.....	10				6	4
Marinette County.....	1					1
Milwaukee County.....	43					43
Oconto County.....	2					2
Outagamie County.....	2			1		1
Racine County.....	2					2
St. Croix County.....	7		1	2	3	1
Taylor County.....	10		2	3	5	
Walworth County.....	1					1
Waukesha County.....	9					9
Winnebago County.....	2					2
Total.....	194		3	14	60	117

**California—Imperial County.**

Acting Asst. Surg. Richter, of the Public Health Service, reported that 2 new cases of smallpox had been reported in Imperial County during the week ended February 15.

**California—San Francisco and Vicinity.**

Passed Asst. Surg. Long, of the Public Health Service, reported by telegraph, concerning smallpox in San Francisco and vicinity, during the week ended February 15, as follows: At San Francisco 3 new cases had been notified; at Oakland 1 new case, 2 cases had recovered, and 11 remained under treatment; at Berkeley 1 new case, 4 cases recovered, and 3 still under treatment.

**Indiana—Evansville.**

Surg. Clark, of the Public Health Service, reported February 17, 1913, that 38 cases of smallpox had been notified in Evansville during the week ended February 8, and 31 cases during the week ended February 15.

**Iowa—Perry and Des Moines.**

The secretary of the State Board of Health of Iowa reported February 15, 1913, that 19 cases of smallpox had been notified at Perry, Dallas County, during the month of January, 1913, and that 11 cases had been notified at the same place during the first 15 days of February; that 78 cases had been notified at Des Moines during the month of January and 23 cases during the first 15 days of February.

**Maryland—Allegany County.**

The Maryland State Board of Health reported by telegraph February 15, 1913, that 2 new foci of smallpox infection had been reported in Maryland, 1 case having been notified at Cresaptown and 1 at Allegany Mines, both places being in Allegany County.

**New York—Niagara Falls.**

Acting Asst. Surg. Bingham, of the Public Health Service, reported by telegraph February 15, 1913, that during the week ended February 15, 4 new cases of smallpox had been notified at Niagara Falls.

## Miscellaneous State Reports.

Places.	Cases.	Deaths.	Remarks.
<b>Connecticut (Jan. 1-31):</b>			
Counties—			
Hartford.....	1		
Putnam.....	2		
Tolland.....	1		
Total.....	4		
<b>Washington (Dec. 1-31):</b>			
County—			
King.....	1		Supplemental to report (p. 303).
<b>Wyoming (Jan. 1-31):</b>			
Counties—			
Crook.....	3		
Laramie.....	1		
Sheridan.....	2		
Total.....	6		

## City Reports for Week Ended Feb. 1, 1913.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Baltimore, Md.....	3		Los Angeles, Cal.....	1	
Boston, Mass.....	1		Lynn, Mass.....	2	
Butte, Mont.....	1		Manchester, N. H.....	4	
Cambridge, Ohio.....	1		Milwaukee, Wis.....	8	
Chattanooga, Tenn.....	1		New Orleans, La.....	1	
Chicago, Ill.....	10		Niagara Falls, N. Y.....	1	
Cincinnati, Ohio.....	3		Portsmouth, Va.....	2	
Cumberland, Md.....	2		Sacramento, Cal.....	5	
Detroit, Mich.....	10		St. Louis, Mo.....	2	
Duluth, Minn.....	4		San Francisco, Cal.....	2	
Knoxville, Tenn.....	6		Spokane, Wash.....	4	
La Crosse, Wis.....	2		Waltham, Mass.....	4	
Lexington, Ky.....	4		Zanesville, Ohio.....	7	

## TYPHOID FEVER.

## State Reports for January, 1913.

Place.	Number of new cases reported during month.	Place.	Number of new cases reported during month.
<b>Maryland, exclusive of Baltimore City:</b>		<b>Maryland—Continued.</b>	
Allegany County—		Caroline County—	
Cumberland.....	17	Denton.....	1
Allegany Hospital.....	5	Carroll County—	
East Cumberland.....	1	Mount Airy.....	1
Lonaconing.....	1	Near Tannery.....	1
Narrows Park.....	1	Cecil County—	
Eckhart Mines.....	1	Cherry Hill.....	1
Westernport.....	5	Charles County—	
Anne Arundel County—		La Plata.....	1
Annapolis.....	1	Marshall Hall.....	1
Camp Parole.....	1	Bryantown.....	1
Jessup.....	1	Gallant Green.....	1
Laurel.....	1	Dorchester County—	
Baltimore County—		Church Creek.....	1
Ellicott City.....	1	Lakesville.....	2
Jacksonville.....	1	Cambridge.....	1
Gardenville.....	1	Frederick County—	
Towson.....	2	Woodsboro.....	1
Rider.....	1	Sabillasville.....	1
Stevenson.....	1	Point of Rocks.....	1
Mount Winans.....	1	Thurmont.....	1
Calvert County—		Garrett County—	
Buena Vista.....	1	Kitzmiller.....	1



## TYPHOID FEVER—Continued.

## State Reports for January, 1913—Continued.

Place.	Number of new cases reported during month.	Place.	Number of new cases reported during month.
<b>Maryland—Continued.</b>		<b>Mississippi—Continued.</b>	
Harford County—		Issaquena County.....	1
Havre de Grace.....	2	Itawamba County.....	3
Howard County—		Jefferson Davis County.....	6
Ellicott City.....	9	Lamar County.....	7
Near Ellicott City.....	1	Lauderdale County.....	1
Kent County—		Lawrence County.....	4
Betterton.....	2	Montgomery County.....	3
Montgomery County—		Neshoba County.....	4
Poolesville.....	2	Noxubee County.....	1
Prince Georges County—		Pearl River County.....	3
North Keys.....	2	Perry County.....	1
Near Nottingham.....	1	Pontotoc County.....	2
Laurel.....	1	Scott County.....	1
Queen Anne County—		Tate County.....	2
Barclay.....	1	Tunica County.....	1
Somerset County—		Washington County.....	1
Crisfield.....	2	Yalobusha County.....	2
Washington County—		Yazoo County.....	1
Clearspring.....	2	Total.....	76
Hagerstown.....	4		
Millstone.....	4	<b>Wisconsin:</b>	
Buena Vista.....	1	Barron County.....	1
Smithsburg.....	1	Bayfield County.....	1
Edgemont.....	2	Brown County.....	1
Worcester County—		Dane County.....	2
Pocomoke City.....	3	Fond du Lac County.....	1
Snow Hill.....	1	Kenosha County.....	2
Total.....	102	La Crosse County.....	1
		Manitowoc County.....	1
<b>Mississippi:</b>		Marathon County.....	1
Attala County.....	4	Milwaukee County.....	28
Choctaw County.....	3	Portage County.....	1
Clarke County.....	2	Rock County.....	1
Clay County.....	6	Sheboygan County.....	4
Coahoma County.....	2	Taylor County.....	4
Copiah County.....	3	Waupaca County.....	1
Franklin County.....	2	Winnebago County.....	2
Harrison County.....	6	Total.....	52
Holmes County.....	4		

## Washington—Supplementary Report.

The State Commissioner of Health of Washington reported February 7, 1913, that 8 cases of typhoid fever had been notified in Seattle during the month of December, 1912. These cases were not included in the regular report for the State of Washington for the month of December, published in the Public Health Reports February 14, 1913.

## CEREBROSPINAL MENINGITIS.

## California—Los Angeles.

Senior Surg. Brooks, of the Public Health Service, reported by telegraph February 15, 1913, that 9 cases of cerebrospinal meningitis, with 4 deaths, had been notified in Los Angeles during the month of January, 1913; during the first 15 days of February 9 cases, with 3 deaths, and during the year 1912 a total of 22 cases, with 11 deaths.

**Mississippi Report for January, 1913.**

The State Board of Health of Mississippi reported that cerebro-spinal meningitis had been notified in that State during the month of January, 1913, as follows: Jackson County 3 cases, Simpson County 1 case, Washington County 1 case.

**Texas—Eagle Pass.**

Acting Asst. Surg. Hume of the Public Health Service reported February 8, 1913, as follows, in relation to an outbreak of cerebro-spinal meningitis at Eagle Pass:

During the last week of December, 1912, 10 cases of the disease were reported, nine of which were of the fulminating type, the other was a mild case. The nine fulminating cases died in from 6 to 36 hours; the other cases recovered after three weeks' illness. I personally saw 5 of the cases which died. In none of these cases was the serum used, as it could not be procured in time. All of these cases were among Mexican families.

On January 13 another case developed in a white man.

On January 20 there was another case in a boy of 16 years. Two additional cases were reported January 23.

**Wisconsin Report for January, 1913.**

The State Board of Health of Wisconsin reported that cerebro-spinal meningitis had been notified in that State during the month of January, 1913, as follows: Ashland County 2 cases, Milwaukee County 5 cases, Richland County, 1 case, Washington County 1 case, Waukesha County 1 case.

**Cases and Deaths Reported by Cities for Week Ended February 1, 1913.**

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Baltimore, Md.....		2	Lowell, Mass.....	1	
Boston, Mass.....	2	3	Montgomery, Ala.....	1	
Cambridge, Mass.....	1	1	Nashville, Tenn.....	1	
Chicago, Ill.....	1		New Orleans, La.....	2	4
Cincinnati, Ohio.....	3		New York, N. Y.....	9	4
Columbus, Ohio.....	1	1	St. Joseph, Mo.....	1	1
Elmira, N. Y.....	1		St. Louis, Mo.....	1	1
Los Angeles, Cal.....	4	1			

**POLIOMYELITIS (INFANTILE PARALYSIS).****Mississippi Report for January, 1913.**

The State Board of Health of Mississippi reported that 2 cases of poliomyelitis has been reported in Copiah County during the month of January, 1913.

## Wisconsin Report for January, 1913.

The State Board of Health of Wisconsin reported that poliomyelitis had been reported in that State for the month of January, 1913, as follows: Fond du Lac County, 4 cases; Rock County, 1 case; Sheboygan County, 1 case.

## Cases and Deaths Reported by Cities for Week Ended February 1, 1913.

During the week ended February 1, 1913, poliomyelitis was reported by cities as follows: Cleveland, Ohio, 1 case, 1 death; New York, N. Y., 4 cases, 2 deaths; St. Louis, Mo., 1 case.

## ERYSIPELAS.

## Cases and Deaths Reported by Cities for Week Ended Feb. 1, 1913.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Hoston, Mass.		1	Moline, Ill.	1	
Bridgeport, Conn.	1		Newark, N. J.		1
Brockton, Mass.	1	1	New Castle, Pa.	1	
Buffalo, N. Y.	3		New York, N. Y.	39	6
Chicago, Ill.	20		Niagara Falls, N. Y.	1	
Cincinnati, Ohio.	4	1	North Adams, Mass.	1	1
Cleveland, Ohio.	15	2	Passaic, N. J.	2	
Concord, N. H.		1	Philadelphia, Pa.	14	3
Erie, Pa.	1		Pittsburgh, Pa.	5	
Lancaster, Pa.	1		Reading, Pa.	1	
Los Angeles, Cal.	3		Sacramento, Cal.		1
McKeesport, Pa.	2		St. Louis, Mo.	10	1
Massillon, Ohio.		1	San Francisco, Cal.	4	
Milwaukee, Wis.	3		South Bethlehem, Pa.	1	1

## LEPROSY.

## Mississippi—Hancock County.

The State Board of Health of Mississippi reported that 1 case of leprosy had been reported in Hancock County during the month of January, 1913.

## PLAGUE.

## Rats Collected and Examined for Plague.

Places.	Week ended—	Found dead.	Total collected.	Examined.	Found infected.
California:					
Cities—					
Berkeley	Feb. 1, 1913		146	194	
Oakland	do	13	563	433	
San Francisco	do	12	1,714	1,176	
Counties—					
San Joaquin	do	1		1	
Alameda	do		30	30	
Washington:					
City—					
Seattle	do		895	856	

**California—Squirrels Collected and Examined for Plague Infection.**

During the week ended February 1, 1913, there were examined for plague infection 48 ground squirrels from Alameda County, 173 from San Joaquin County, 20 from San Benito County, and 18 from Stanislaus County. No plague-infected squirrel was found.

**PNEUMONIA.****Cases and Deaths Reported by Cities for Week Ended Feb. 1, 1913.**

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Alameda, Cal.		1	New Castle, Pa.	4	
Altoona, Pa.		3	New Bedford, Mass.		8
Baltimore, Md.		37	New Orleans, La.		9
Boston, Mass.		40	Newton, Mass.		1
Braddock, Pa.	1		New York, N. Y.		130
Bridgeport, Conn.		5	Niagara Falls, N. Y.		3
Cambridge, Mass.		8	North Adams, Mass.	1	
Chelsea, Mass.		2	Norristown, Pa.	1	
Chicago, Ill.	48	140	Northampton, Mass.		1
Chicopee, Mass.		3	Passaic, N. J.		9
Cincinnati, Ohio.		13	Pawtucket, R. I.		4
Cleveland, Ohio.	32	16	Philadelphia, Pa.	37	70
Columbus, Ga.		1	Pittsburgh, Pa.	23	30
Concord, N. H.		3	Pittsfield, Mass.	2	
Danville, Ill.		1	Plainfield, N. J.		1
Dayton, Ohio.		2	Portsmouth, Va.		1
Dunkirk, N. Y.	1		Providence, R. I.		5
Elizabeth, N. J.		2	Reading, Pa.	4	
Elmira, N. Y.	2	1	Richmond, Va.		3
El Paso, Tex.		11	Roanoke, Va.		3
Erie, Pa.		2	Rockford, Ill.		4
Everett, Mass.		2	Sacramento, Cal.		4
Fall River, Mass.		7	Saginaw, Mich.	2	
Grand Rapids, Mich.		3	St. Joseph, Mo.		7
Harrisburg, Pa.	1		Salem, Mass.		4
Hartford, Conn.		7	San Francisco, Cal.	17	
Haverhill, Mass.	6	6	Saratoga Springs, N. Y.	1	
Kalamazoo, Mich.	5	1	Schenectady, N. Y.	2	4
La Crosse, Wis.		1	South Bethlehem, Pa.	4	1
La Fayette, Ind.		1	South Omaha, Nebr.	1	
Lancaster, Pa.	1		Spokane, Wash.		1
Lexington, Ky.		4	Springfield, Mass.		8
Los Angeles, Cal.	3	18	Steelton, Pa.	1	1
Lynn, Mass.		2	Superior, Wis.		1
Lowell, Mass.		5	Toledo, Ohio.		4
McKeesport, Pa.	6		Waltham, Mass.		1
Manchester, N. H.	2	2	Wheeling, W. Va.	1	3
Montgomery, Ala.		1	Wilkes-Barre, Pa.		1
Montclair, N. J.		1	York, Pa.	1	
Nashville, Tenn.		1	Zanesville, Ohio.		1
Newark, N. J.		10			

**TETANUS.****Cases and Deaths Reported by Cities for Week Ended February 1, 1913.**

During the week ended February 1, 1913, tetanus was reported by cities as follows: Dunkirk, N. Y., 1 case; Nashville, Tenn., 1 death; New Orleans, La., 1 death.

**SCARLET FEVER, MEASLES, DIPHTHERIA, AND TUBERCULOSIS.****Maryland Report for January, 1913.**

The State Board of Health of Maryland reported that there had been notified in that State during the month of January, 1913, 82 cases of scarlet fever, 231 cases of measles, and 88 cases of diphtheria.

**Mississippi Report for January, 1913.**

The Mississippi State Board of Health reported that, during the month of January, 1913, 7 cases of scarlet fever, 33 cases of measles and 22 cases of diphtheria had been notified in the State.

**Wisconsin Report for January, 1913.**

The State Board of Health of Wisconsin reported that there had been notified in that State during the month of January, 1913, 425 cases of scarlet fever, 454 cases of measles, and 243 cases of diphtheria.

**Cincinnati, Ohio—Measles.**

Dr. J. H. Landis, health officer of Cincinnati, reported that during the week ended February 1, 1913, 260 cases of measles, with 4 deaths, had been notified in Cincinnati.

**Pittsburgh—Measles.**

Surg. Stoner, of the Public Health Service, reported by telegraph February 15, 1913, that during the week ended February 8 there had been notified in Pittsburgh 500 cases of measles, with 3 deaths, making a total of 4,531 cases, with 65 deaths, since the beginning of the outbreak November 1, 1912.

**Richmond, Va.—Measles.**

Dr. E. C. Levy, health officer of Richmond, reported that 517 cases of measles, with 1 death, had been notified in Richmond during the week ended February 1, 1913, and 546 cases, with 3 deaths, during the week ended February 8, 1913.

**Rutland, Vt.—Measles.**

Health Officer F. H. Gebhart, of Rutland, Vt., reported for the week ended February 1, 1913, that 99 cases of measles had been notified in Rutland.

**Washington—Supplementary Report.**

The commissioner of health of Washington reported February 7, 1913, that during the month of December, 1912, there had been notified in Seattle 13 cases of scarlet fever, 124 cases of measles, and 32 cases of diphtheria. These cases were not included in the regular report for the State of Washington published in the Public Health Reports February 14, 1913.



## SCARLET FEVER, MEASLES, DIPHTHERIA, AND TUBERCULOSIS—Contd.

## Cases and Deaths Reported by Cities for Week Ended Feb. 1, 1913.

Cities.	Popula- tion, United States census 1910.	Total deaths from all causes.	Diph- theria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Over 500,000 inhabitants:										
Baltimore, Md.	558,485	213	26	1	66	—	20	2	36	31
Boston, Mass.	670,585	252	60	5	177	4	61	—	61	27
Chicago, Ill.	2,185,283	774	293	28	577	11	380	32	153	80
Cleveland, Ohio.	560,663	142	47	2	61	2	20	2	29	11
New York, N. Y.	4,766,883	1,440	470	33	454	10	402	17	465	174
Philadelphia, Pa.	1,549,008	514	78	4	458	6	107	2	89	48
Pittsburgh, Pa.	533,905	177	30	7	376	5	30	—	36	15
St. Louis, Mo.	687,029	237	227	2	318	1	30	—	50	17
From 300,000 to 500,000 inhabit- ants:										
Cincinnati, Ohio.	364,463	136	24	1	260	4	12	2	19	12
Detroit, Mich.	465,766	184	22	4	39	2	—	—	—	—
Los Angeles, Cal.	319,198	144	16	—	23	—	10	—	46	25
Milwaukee, Wis.	373,857	107	25	7	15	1	13	1	14	12
Newark, N. J.	347,469	124	49	—	19	—	31	1	44	14
New Orleans, La.	339,075	149	27	3	60	—	7	1	26	27
San Francisco, Cal.	416,912	164	15	1	7	1	8	—	39	16
From 200,000 to 300,000 inhabit- ants:										
Providence, R. I.	224,326	57	15	—	18	—	16	—	4	13
From 100,000 to 200,000 inhabit- ants:										
Bridgeport, Conn.	102,054	29	1	—	3	—	6	—	5	—
Cambridge, Mass.	104,839	35	7	—	8	—	3	—	6	—
Columbus, Ohio.	181,548	57	3	—	13	—	4	1	10	7
Dayton, Ohio.	116,577	31	14	—	3	—	5	1	1	7
Fall River, Mass.	119,295	45	1	—	3	—	7	2	5	5
Grand Rapids, Mich.	112,571	49	4	1	9	—	7	3	1	3
Lowell, Mass.	106,294	30	8	—	6	—	15	—	—	2
Nashville, Tenn.	110,364	55	—	—	9	—	1	—	9	6
Richmond, Va.	127,628	34	2	—	517	1	11	—	4	2
Spokane, Wash.	104,402	—	—	—	1	—	—	—	—	—
Toledo, Ohio.	168,497	36	9	3	39	—	7	—	1	6
From 50,000 to 100,000 inhabit- ants:										
Altoona, Pa.	52,127	12	2	—	—	—	5	—	—	—
Bayonne, N. J.	55,545	—	2	—	5	—	6	—	7	—
Brockton, Mass.	56,878	9	—	—	—	—	3	—	4	—
Camden, N. J.	94,538	—	11	2	33	—	—	—	6	—
Duluth, Minn.	78,466	17	—	—	—	—	9	—	—	1
Elizabeth, N. J.	73,409	19	3	—	7	—	3	—	3	3
Erie, Pa.	66,525	20	8	—	13	—	7	—	—	4
Harrisburg, Pa.	64,186	24	7	—	2	—	—	—	4	—
Hartford, Conn.	98,915	35	6	—	12	1	41	2	5	3
Hoboken, N. J.	70,324	2	2	—	15	—	1	—	14	1
Johnstown, Pa.	55,482	15	6	—	29	—	1	—	—	—
Lynn, Mass.	89,336	31	5	1	53	—	8	—	4	3
Manchester, N. H.	70,063	35	7	—	7	—	—	—	5	5
New Bedford, Mass.	96,652	38	6	4	22	—	13	—	3	3
Passaic, N. J.	54,773	28	1	1	2	—	—	—	3	1
Reading, Pa.	96,071	28	7	3	73	—	—	1	5	1
Saginaw, Mich.	50,510	16	1	—	14	—	2	—	—	—
St. Joseph, Mo.	77,403	30	4	—	3	—	8	—	1	2
Schenectady, N. Y.	72,826	18	2	—	5	—	11	2	5	1
South Bend, Ind.	53,684	18	2	1	—	—	3	—	—	3
Springfield, Mass.	88,926	39	6	—	14	—	9	—	5	3
Trenton, N. J.	96,815	26	11	1	10	—	10	1	15	5
Wilkes-Barre, Pa.	67,105	20	4	2	2	—	10	—	2	1
From 25,000 to 50,000 inhabitants:										
Atlantic City, N. J.	46,150	—	3	—	1	—	2	—	4	1
Auburn, N. Y.	34,668	13	—	—	15	—	8	—	—	1
Aurora, Ill.	29,807	—	—	—	—	—	1	—	—	—
Butte, Mont.	39,165	20	1	—	8	—	8	—	—	3
Chattanooga, Tenn.	44,604	—	1	—	—	—	—	—	1	—
Chelsea, Mass.	32,452	8	1	—	1	—	4	—	2	—
Chicopee, Mass.	25,401	12	1	1	19	—	2	—	1	3
Danville, Ill.	27,871	10	1	—	1	—	4	—	—	1
East Orange, N. J.	34,371	—	3	—	9	—	3	—	—	—
Elmira, N. Y.	37,176	17	6	—	21	—	7	—	1	1
El Paso, Tex.	39,279	35	—	—	2	—	—	—	—	9
Everett, Mass.	33,484	—	—	—	19	—	5	—	2	2
Fitchburg, Mass.	37,826	19	—	—	80	1	—	—	2	1

## SCARLET FEVER, MEASLES, DIPHTHERIA, AND TUBERCULOSIS—Contd.

## Cases and Deaths Reported by Cities for Week Ended Feb. 1, 1913—Contd.

Cities.	Population, United States census 1910.	Total deaths from all causes.	Diph- theria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
From 25,000 to 50,000 inhabitants—(continued).										
Haverhill, Mass.	44,115	19	6	1	56		4	1	3	3
Kalamazoo, Mich.	39,437	15	2		1		1		6	3
Knoxville, Tenn.	36,346	12			2					5
La Crosse, Wis.	30,417	7	1		1		2			2
Lancaster, Pa.	47,227		5		17		1		2	
Lexington, Ky.	35,099	20			3		1		1	5
Lynchburg, Va.	29,494	14	1		14				3	5
Malden, Mass.	44,404		2		14		3		1	
McKeesport, Pa.	42,694	17	3	1	36		2	1		1
Montgomery, Ala.	38,136	13								1
Newcastle, Pa.	36,280		3		14					
Newport, Ky.	30,309	9	1				2			
Newton, Mass.	39,806	12	1		2		1			1
Niagara Falls, N. Y.	30,445	8	1		85		6		4	
Norristown, Pa.	27,875	9			1		2			
Orange, N. J.	29,630		1		2		2			
Pittsfield, Mass.	32,121	7	2		4		3			1
Portsmouth, Va.	33,190	11	1							2
Roanoke, Va.	34,874	14							2	1
Rockford, Ill.	45,401	21	3				1			1
Sacramento, Cal.	44,696	18			4		1		2	3
Salem, Mass.	43,697	19	1					1	1	1
South Omaha, Nebr.	26,259	7								
Superior, Wis.	40,384	10								1
Taunton, Mass.	34,259	9			1		2			1
Waltham, Mass.	27,834	10	5							1
West Hoboken, N. J.	35,403		2		6		5		1	
Wheeling, W. Va.	41,641	13	2		27		1			
Williamsport, Pa.	31,860	8	1						11	
Wilmington, N. C.	25,748	9	1		1				3	
York, Pa.	44,750						1			
Zanesville, Ohio.	28,026	11	2		13					
Less than 25,000 inhabitants:										
Alameda, Cal.	23,833	5					1			
Ann Arbor, Mich.	14,817	4			22		1			
Beaver Falls, Pa.	12,191				1				4	
Biddeford, Me.	17,079	3								1
Braddock, Pa.	17,759		3		10		3			
Cambridge, Ohio.	17,327	3								
Coffeyville, Kans.	12,687		1						1	
Clinton, Mass.	13,075	6			20	1				
Columbus, Ga.	20,554	3								
Concord, N. H.	21,479	16			39		3			1
Cumberland, Md.	21,839	7	4						2	
Dunkirk, N. Y.		6	1				1			
Galesburg, Ill.	22,089	1								
Harrison, N. J.	14,489	3					2			
Kearny, N. J.	18,659	8			2		1		2	2
La Fayette, Ind.	20,081	6								1
Marquette, Wis.	14,610	4								
Marlboro, Mass.	14,759	5								
Massillon, Ohio.	23,830	5			9		4			
Medford, Mass.	23,150	6							2	
Melrose, Mass.	15,715	3	2							
Moline, Ill.	24,190	9	2				2			
Montclair, N. J.		5	1							1
Nanticoke, Pa.	18,857	4	3	2	2					
Newburyport, Mass.	19,240	4					1		2	
North Adams, Mass.	22,019	8	2		1		2		2	
Northampton, Mass.	19,931	8					2		1	
Plainfield, N. J.	23,550	6							2	
Pottstown, Pa.		4			2					
Rutland, Vt.	13,546				99		2			1
Saratoga Springs, N. Y.		5	1		2					
South Bethlehem, Pa.		9	2		4					
Springfield, Ohio.			2				4			
Steelton, Pa.	14,476	5	4		1					
Woburn, Mass.	18,594	5			2					2

## IN INSULAR POSSESSIONS.

### HAWAII.

#### Fatal Case of Plague.

A fatal case of plague occurred January 31, 1913, at Kukuihaele in the person of a Hawaiian living not far from the premises on which a death from plague occurred December 16, 1912.<sup>1</sup>

#### Examination of Rodents for Plague Infection.

At Honolulu rats have been examined for plague infection as follows: Week ended January 18, 1913, 206 rats; week ended January 25, 1913, 175 rats. No plague-infected rat was found.

At Hilo and Honokaa rats and mongoose were examined during the week ended January 18, 1913, for plague infection, as follows: Hilo, 1,001 rats and mongoose; one plague-infected rat found; Honokaa, 1,434 rats and mongoose; one plague-infected rat found.

### PORTO RICO.

#### Plague Situation.

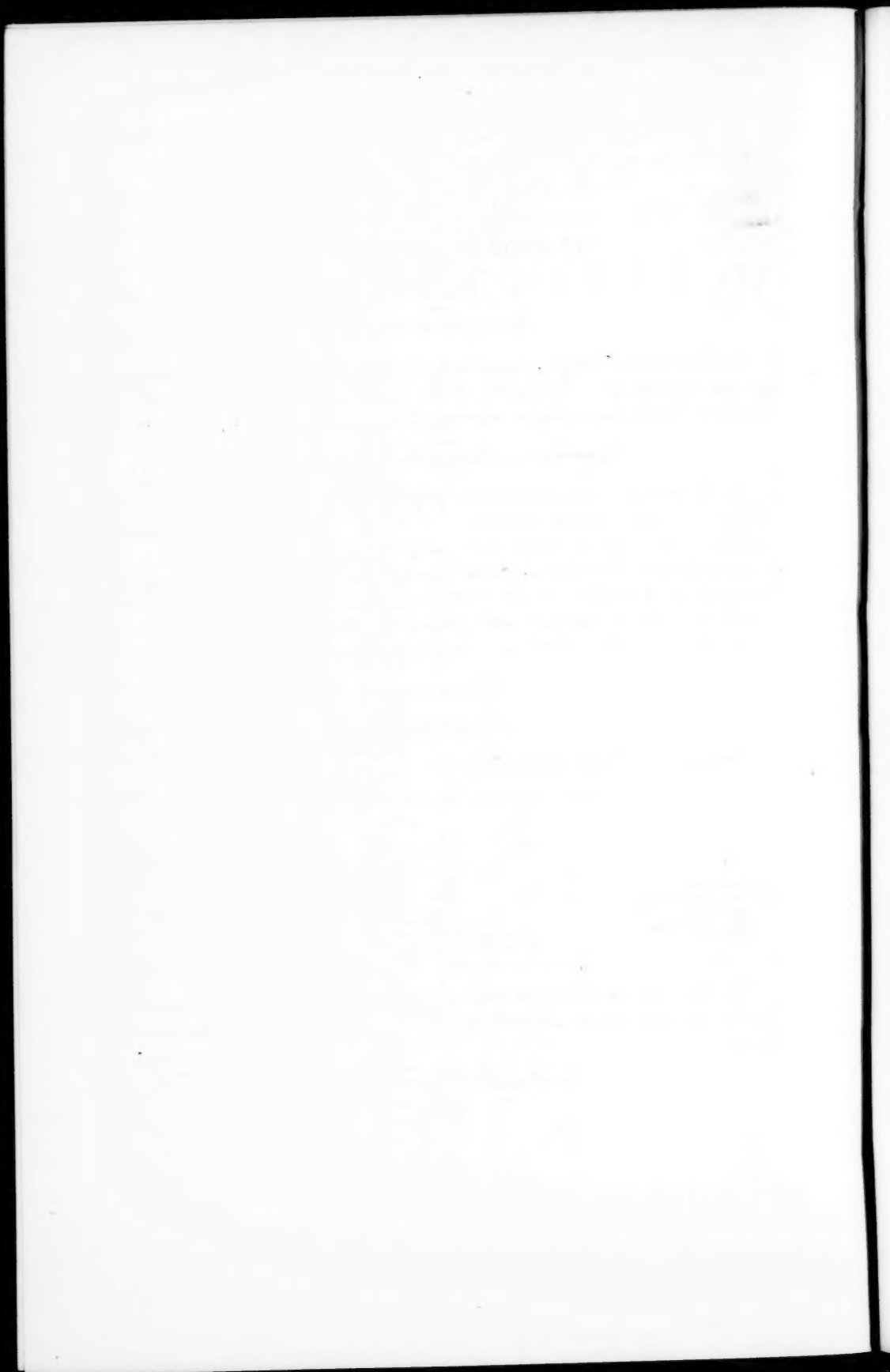
Passed Asst. Surg. Creel reports:

RATS EXAMINED JAN. 25 TO FEB. 1, 1913.

Places.	Rats examined.	Rats found infected.
All Porto Rico.....	1,336	.....
San Juan municipality:		
San Juan.....	186	.....
Puerta de Tierra.....	90	.....
Santurce.....	257	.....

The last case of plague in man occurred in San Juan September 12, 1912; the last plague-infected rat was found at Caguas December 19, 1912.

<sup>1</sup> Public Health Reports Jan. 24, 1913, p. 178.



## FOREIGN REPORTS.

### CUBA.

#### Transmissible Diseases.

WHOLE ISLAND, MONTH OF DECEMBER, 1912.

Diseases.	New cases.	Deaths.	Remaining under treatment.
Tuberculosis.....	287	217	3,036
Leprosy.....	2	1	338
Malaria.....	131	20	165
Typhoid fever.....	64	20	42
Diphtheria.....	131	29	26
Scarlet fever.....	39	1	17
Measles.....	43	.....	27
Varicella.....	22	.....	10
Epidemic dysentery.....	1	.....	.....
Tetanus in the new born.....	17	17	.....

HABANA, JAN. 21 TO 31, 1913.

Leprosy.....	2	3	245
Malaria.....	1	.....	.....
Typhoid fever.....	18	3	39
Diphtheria.....	15	1	14
Scarlet fever.....	25	2	32
Measles.....	13	.....	15
Varicella.....	1	.....	1
Paratyphoid.....	1	.....	6

### ITALY.

#### Quarantine Against Casablanca Removed.

According to information dated January 18, received from Minister O'Brien at Rome, the quarantine restrictions imposed at ports in Italy against Casablanca, Morocco, on account of plague, have been removed.

### NEW ZEALAND.

#### Auckland—Examination of Rats.

According to information issued by the department of health of New Zealand there were examined at Auckland during the period from October 12 to December 31, 1912, for plague infection, 1,432 rats. No plague-infected rat was found.

The last case of plague in man was notified May 8, 1911.

The last plague-infected rat was found May 31, 1911.

## RUSSIA.

## Plague.

The following information, dated January 18, was received from the foreign office at St. Petersburg through Ambassador Guild:

Twenty cases of plague, with 12 deaths, were reported about November 1, 1912, on the Popow estate, in the Don Territory. The estate is situated about 90 miles from the village of Zavetnoye in the government of Astrakhan, which was infected with plague during the autumn of 1911. No new cases having been reported since December 23, 1912, the locality has been declared free from plague.

## CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX.

## Reports Received During Week Ended Feb. 21, 1913.

## CHOLERA.

Places.	Date.	Cases.	Deaths.	Remarks.
India:				
Bombay.....	Jan. 5-11.....	16	15	
Calcutta.....	Dec. 15-Jan. 11.....		137	
Siam:				
Bangkok.....	Dec. 8-Jan. 4.....		2	
Turkey in Europe:				
Constantinople.....	Jan. 21-27.....	4	2	Total Nov. 5-Jan. 27: Cases 2,514, deaths 1,245.
Zanibar:				
Total.....	Aug 5-Dec. 23.....	943	912	Including previous reports.

## YELLOW FEVER.

Brazil:				
Manaos.....	Jan. 12-25.....	2	2	

## PLAGUE.

Brazil:				
Pernambuco.....	Dec. 16-31.....		1	
Santos.....	Dec. 1.....	2	2	
British East Africa:				
Kisumu.....	Dec. 8-25.....	1		
Mombasa.....	do.....	4		
Nairobi.....	do.....	1		
China:				
Hoihow.....	Nov. 1-30.....			Present.
Pakhoi.....	Dec. 1-31.....	30		
Hawaii:				
Kukuihaele.....	Jan. 31.....	1	1	
India:				
Bombay.....	Jan. 5-11.....	12	11	
Calcutta.....	Dec. 6-Jan. 11.....		32	
Provinces:	Dec. 1-28.....			Total: Cases 12,879, deaths 9,955.
Bombay.....	do.....	2,310	1,765	
Madras.....	do.....	1,100	817	
Bengal.....	do.....	30	29	
Bihar and Orissa.....	do.....	796	658	
United Provinces.....	do.....	5,574	4,144	
Punjab.....	do.....	457	338	
Burma.....	do.....	61	51	
Central Provinces.....	do.....	162	108	
Mysore.....	do.....	531	413	
Hyderabad.....	do.....	885	689	
Central India.....	do.....	13	13	
Rajputana.....	do.....	957	929	
Kashmir.....	do.....	3	1	



**CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX—Continued.****Reports Received During Week Ended Feb. 21, 1913—Continued.****PLAGUE—Continued.**

Places.	Date.	Cases.	Deaths.	Remarks.
Indo-China:				
Saigon.....	Nov. 26-Dec. 16...	3	1	
New Caledonia:				
Numea.....	Oct. 29-Dec. 2.....			7 cases with 2 deaths among Europeans and 22 fatal cases among natives.
Russia:				
Don, territory.....	Nov. 1-Jan. 12.....			In 6 localities. 38 cases with 22 deaths.
Hutor Popova (estate).....	Nov. 1-15.....	20	12	Esaoul district.
Moscow.....	Dec. 29-Jan. 11.....	3	1	

**SMALLPOX.**

Arabia:				
Aden.....	Jan 14-20.....	1		
Argentina:				
Buenos Aires.....	Nov. 1-30.....		2	
Austria-Hungary:				
Trieste.....	Jan. 5-18.....	18		
Brazil:				
Pernambuco.....	Dec. 16-31.....		48	
Canada:				
Hamilton.....	Jan. 1-31.....	31		
Montreal.....	Feb. 2-8.....	7		
Ottawa.....	Dec. 26-Feb. 1.....	6		
Quebec.....	Feb. 2-8.....	2		
China:				
Hoihow.....	Jan. 3.....			Present.
Dutch East Indies:				
Java—				
Batavia.....	Dec. 29-Jan. 4.....	10	6	
Egypt:				
Alexandria.....	Jan. 15-21.....	2		
Germany:				
Hamburg.....	Jan. 19-25.....	1		Total Dec. 19-25: Cases, 2.
India:				
Bombay.....	Jan. 5-11.....	2		
Calcutta.....	do.....		1	
Madras.....	Dec. 29-Jan. 11.....	6	1	
Japan:				
Nagasaki.....	Nov. 1-30.....	1		
Yokohama.....	Jan. 13.....	1		
Mexico:				
Chihuahua.....	Jan. 27-Feb. 1.....		1	
Durango.....	Jan. 1-31.....		50	
Veracruz.....	Jan. 26-Feb. 1.....	3		1 case imported from Pasco del Macho.
Russia:				
Batoum.....	Dec. 1-31.....	1		
Moscow.....	Dec. 29-Jan. 11.....	3	1	
St. Petersburg.....	do.....	20	2	
Warsaw.....	Oct. 12-Nov. 9.....	14	3	
Siberia—				
Omsk.....	Jan. 1-27.....	7		
Vladivostok.....	Dec. 15-28.....	4	1	
Siam:				
Bangkok.....	Dec. 8-Jan. 4.....		2	
Spain:				
Barcelona.....	Jan. 26-Feb. 1.....		9	
Switzerland:				
Canton—				
Aargau.....	Jan. 5-18.....	1		
Basel.....	Jan. 12-18.....	1		
Grisons.....	do.....	3		

**CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX—Continued.****Reports Received from Dec. 27, 1912, to Feb. 14, 1913.****CHOLERA.**

Places.	Date.	Cases.	Deaths.	Remarks.
Bulgaria:				
Eski Saghra.....	Dec. 9.....	2		
Sofia.....	Nov. 21-Dec. 16.....	6	1	
China:				
Foochow.....	Nov. 20-Dec. 2.....			Isolated cases.
Dutch East Indies:				
Borneo—				
Pontrank.....	Oct. 6.....	1		
Samarinda.....	Oct. 9.....	1		
Singkawang.....	Oct. 8-Nov. 1.....	1	1	
Java—				
Batavia.....	Nov. 9-23.....	32	21	Feb. 6. present.
Madison.....	Sept. 15-Nov. 2.....	189	103	
Megalang.....	Oct. 7-12.....	9	6	
Paseroean Residency.....	Sept. 20-26.....	2	1	
Samarang.....	July 19-Nov. 7.....	515	423	
Surabaya.....	Oct. 16-25.....	2	1	
Sumatra—Jambi.....	Sept. 18-24.....	1		
India:				
Bombay.....	Nov. 17-Jan. 4.....	141	98	
Calcutta.....	Nov. 9-Dec. 14.....		172	
Cochin.....	Oct. 19-Nov. 9.....	6	6	
Madras.....	Nov. 24-Jan. 4.....	21	23	
Negapatam.....	Nov. 11-16.....	9	9	
Rangoon.....	Nov. 1-30.....	2	2	
Indo-China: Saigon.....	Aug. 20-Oct. 27.....	42	38	
Japan:				
Aita Ken.....	Dec. 2.....	1		
Chiba Ken.....	Nov. 23-Dec. 17.....	25		
Fukushima Ken.....	Dec. 5.....	1		
Hiardo Islands.....	Sept. 15-Dec. 1.....	30		
Hioga Ken.....	Nov. 27-Dec. 19.....	22		
Hiroshima Ken.....	Nov. 23.....	1		
Ibaraki Ken.....	Dec. 6.....	2		
Iwate Ken.....	Dec. 16.....	1		
Kanagawa Ken.....				
Yokohama.....	Nov. 24-Jan. 14.....	22		
Kochi Ken.....	Nov. 28-Dec. 4.....	3		
Minami Tokaki gun.....	Sept. 15-Dec. 2.....	40		
Nagasaki Ken.....				
Nagasaki city.....	Sept. 15-Dec. 2.....	10	4	
Osaka Fu.....	Nov. 23-Dec. 3.....	14		
Saga Ken.....	do.....	5		
Sasebo.....	Sept. 15-Dec. 2.....	7		
Shidzuoka Ken.....	Dec. 3-29.....	12		
Taiwan (Formosa).....				
Tokushima Ken.....	Sept. 15-Dec. 1.....	65		
Tokyo Fu.....	Nov. 23-Jan. 5.....	102		
Tokyo.....				
Wakumatsu Ken.....	Nov. 26.....	1		
Russia: Odessa.....				
Siam:				
Bangkok.....	Oct. 13-Dec. 7.....		4	
Straits Settlements—Singapore.....	Nov. 17-23.....	2	2	
Turkey in Asia.....				
Adana—				
Adana.....	Nov. 17-Dec. 2.....	2	2	
Aleppo—				
Aleppo.....	Nov. 24-Dec. 2.....	3	3	
Alexandretta.....	do.....	3	2	
Angora—				
Angora.....	Nov. 24-Dec. 11.....	29	23	
Balikesir.....	Nov. 24-Dec. 2.....		1	
Beirut—				
Merdjioun.....	Dec. 3-11.....		15	
Tabariyeh.....	Dec. 13-22.....			Present.
Brusa.....	Nov. 17-Dec. 11.....	26	38	
Castamoni.....	Nov. 17-Dec. 2.....	6	4	
Dierbekir.....	do.....	8	2	

Total July 10-Jan. 14: Cases 2,736; deaths, July 10-Dec. 31, 1,584. Nov. 1-30: Cases, 623; deaths, 397.

Total Nov. 23-Dec. 20: Cases, 53. Sept. 25-Dec. 7: 9 cases from vessels.

Nagasaki Ken and outlying islands Sept. 15-Dec. 2: Cases 188; deaths 134, including previous reports.

Total Nov. 3-23: Cases, 48; deaths 42.

Not previously reported.

Oct. 2-Dec. 7: Cases, 273, and in vicinity, 342.

Nov. 18-20: 1 case from s. s. Bosnian from Constantinople. Confined in the quarantine barracks.

Total, Nov. 17-23: Cases, 160; deaths, 218.

**CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX—Continued.****Reports Received from Dec. 27, 1912, to Feb. 14, 1913—Continued.****CHOLERA—Continued.**

Places.	Date.	Cases.	Deaths.	Remarks.
<b>Turkey in Asia—Continued.</b>				
Hedjaz—				
Jedda.....	Nov. 25-Dec. 14....	395	393	Among returning pilgrims.
Medina.....	Dec. 3-11.....		6	
Mekka.....	Nov. 17-23.....	111	172	Dec. 3-11: Deaths, 3,007.
Ismidt.....	Nov. 17-Dec. 2.....	3	1	
Mosul.....	do.....		2	
Sinope.....	Dec. 3-11.....	1	4	
Smyrna.....	Nov. 17-Dec. 2.....	3	1	
Tarsus.....	Nov. 24-Dec. 2.....	2	1	
<b>Turkey in Europe:</b>				
Constantinople.....	Dec. 3-Jan. 20....	1,593	785	Total Nov. 5-Jan. 20: Cases, 2,510; deaths, 1,243.
Zanzibar.....	Nov. 8-Dec. 21....	131	130	From Mwera, Chwaka, and Mokotoni. Chwaka district, Oct. 4-Dec. 31, 332 cases, not included in previous reports.
At sea.....				Nov. 18-20: 1 fatal case on s. s. Bosnian, en route from Constantinople to Odessa.

**YELLOW FEVER.**

<b>Brazil:</b>				
Bahia.....	Jan. 24-Feb. 3....	4	1	
Manaos.....	Jan. 5-11.....	2	2	
<b>Ecuador:</b>				
Agua Piedra.....	Dec. 1-31.....	7	4	
Bucay.....	Nov. 15-Dec. 31..	3	2	
Duran.....	Nov. 1-Dec. 31..	3	3	
Guayaquil.....	do.....	25	16	
Milagro.....	do.....	2	2	
Naranjito.....	do.....	3	2	
<b>Senegal:</b>				
Dakar.....	Dec. 7.....			Present.
<b>Venezuela:</b>				
Caracas.....	Nov. 1-30.....	7	1	In September 2 deaths and in October 1 death not previously reported. In December no case and no death.

**PLAGUE.**

<b>Afghanistan:</b>				
Tehehel-Bagdareh.....	Sept. 1-30.....			And vicinity 100 deaths daily. Present to Oct. 29.
<b>Brazil:</b>				
Pernambuco.....	Nov. 1-30.....		5	
Rio de Janeiro.....	Nov. 3-Jan. 4....	10	5	
<b>British East Africa:</b>				
Kiambu.....	Nov. 16-Oct. 21..	2		
Kisumu.....	do.....	6		
Mombasa.....	Oct. 1-31.....	12	12	Free Nov. 18.
Nairobi.....	Nov. 16-Dec. 8....	2	1	
<b>Chile:</b>				
Iquique.....	Jan. 8.....	3	2	
Taltal.....	Oct. 22-28.....	3		
<b>China:</b>				
Amoy.....	Jan. 16.....			Present.
Manchuria.....	Dec. 14.....			Present along the railway, between Harbin and Chang-Chun.
Shanghai.....	Nov. 18-Dec. 15..		2	Dec. 18, present in vicinity of the French settlement.
<b>Dutch East Indies:</b>				
<b>Java—</b>				
Kediri.....	Oct. 6-Dec. 16....	105	103	
Madioen.....	do.....	66	64	
Paseroean Residency.....	do.....	244	247	
Surabaya.....	do.....	10	10	
<b>Ecuador:</b>				
Duran.....	Nov. 1-Dec. 31....	4	1	
Guayaquil.....	do.....	139	52	
Milagro.....	Dec. 1-31.....	8	1	

**CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX—Continued.****Reports Received from Dec. 27, 1912, to Feb. 14, 1913—Continued.****PLAGUE—Continued.**

Places.	Date.	Cases.	Deaths.	Remarks.
<b>Egypt</b> .....				Total Jan. 1-Dec. 31: Cases, 884; deaths, 441; Jan. 1-16: Cases, 11; deaths, 8.
Cairo.....	Dec. 30.....	1	1	
Port Said.....	Dec. 29.....	1	1	
Do.....	Jan. 1-2.....	2	1	
<b>Provinces—</b>				
Behera.....	Nov. 29-Dec. 12.....	2	1	
Do.....	Jan. 1-2.....	2	1	
Charkieh.....	Nov. 29-Dec. 12.....	3	2	
Galioubeh.....	Jan. 1-7.....	1	1	
Garbieh.....	Jan. 1-16.....	1	1	
	Nov. 23-Dec. 17.....	3		
Girgeh.....	Jan. 1-3.....	1	1	
	Dec. 21-25.....	1	1	
Menouf.....	Jan. 1-9.....	5	3	
	Oct. 1-Dec. 31.....	13	7	
Minieh.....	Nov. 28-Dec. 29.....	7	4	
<b>Hawaii:</b>				
Kukuihaele.....	Jan. 11.....	1	1	
<b>India:</b>				
Bombay.....	Nov. 17-Jan. 4.....	31	28	
Calcutta.....	Nov. 9-Dec. 14.....		29	
Madras.....	Dec. 29-Jan. 4.....	1	1	
Karachi.....	Nov. 19-23.....	2	2	
Rangoon.....	Oct. 1-Nov. 30.....	68	68	
<b>Provinces</b> .....				Total Oct. 27-Nov. 30: Cases 12,333; deaths, 9,908.
Delhi.....	Oct. 27-Nov. 30.....	31	14	
Bombay.....	do.....	4,475	3,356	
Madras.....	do.....	733	520	
Bengal.....	do.....	30	30	
Bihar and Orissa.....	do.....	473	367	
United Provinces.....	do.....	2,270	1,857	
Punjab.....	do.....	495	371	
Burma.....	do.....	34	34	
Central Provinces.....	do.....	242	193	
Mysore.....	do.....	975	701	
Hyderabad.....	do.....	613	523	
Central India.....	do.....	57	47	
Rajputana.....	do.....	1,905	1,895	
Indo-China: Saigon.....	Aug. 20-Oct. 27.....	55	35	
Mauritius.....	Oct. 11-Nov. 14.....	129	83	
Morocco: Rabat.....	Nov. 1.....	3		Among the military.
New Caledonia: Numea.....	Oct. 29.....	2		Sept. 17-Oct. 17, 8 cases, with 5 deaths.
<b>Peru:</b>				
<b>Departments—</b>				
Ancachs.....	July 1-31.....	4		
Do.....	Aug. 1-31.....	4	3	
Arequipa.....	July 1-31.....	7	2	Mollendo, Nov. 17-Dec. 7: Cases, 7; deaths 4. Jan. 10, present.
Do.....	Aug. 1-31.....	5	3	
Callao.....	July 1-31.....	1	1	Present in September; Dec. 2-22: Cases, 6.
Ica.....	do.....	1		
Lambayeque.....	Dec. 2-22.....	7		Present in September.
Libertad.....	July 1-31.....	8	2	
Do.....	Aug. 1-31.....	12	7	
San Pedro.....	Dec. 2-22.....	25		
Trujillo.....	do.....	26		
Lima.....	July 1-31.....	3	2	
Do.....	Aug. 1-31.....	4	2	Dec. 2-22: Cases, 2.
Plura.....	Dec. 2-22.....	6		Dec. 2-22: Present in Paita.
<b>Philippine Islands:</b>				
Manila.....	Nov. 10-Dec. 28.....	13	10	
<b>Russia:</b>				
Transbaikal district—				
Verneudinsk.....	Oct. 18-28.....	3	3	Near Nerchinsk.
Trans-Caspian Ty. Merv.....	Dec. 9-21.....	29	29	Pneumonic.

## CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX—Continued.

## Reports Received from Dec. 27, 1912, to Feb. 14, 1913—Continued.

## SMALLPOX.

Places.	Date.	Cases.	Deaths.	Remarks.
Abyssinia: Adis Ababa.....	Nov. 24-Dec. 21.....			Present.
Algeria:				
Departments—				
Algiers.....	Oct. 1-31.....	11		
Constantine.....	..do.....	11		
Oran.....	..do.....	118		
Austria-Hungary:				
Galicia.....	Nov. 10-Dec. 7.....	3		
Trieste.....	Dec. 8-21.....	4		
Brazil:				
Para.....	..do.....	2		
Pernambuco.....	Nov. 1-Dec. 16.....		87	
Rio de Janeiro.....	Nov. 3-Jan. 11.....	20	6	
British East Africa: Mombasa.....	Dec. 1-21.....	5		
Canada:				
Ontario—				
Ottawa.....	Jan. 4-28.....	14		
Toronto.....	Dec. 1-21.....	5		
Quebec—				
Montreal.....	Dec. 15-Feb. 1.....	56		
Quebec.....	..do.....	21		
St. Johns.....	Jan. 12-25.....	9		
Chile: Punta Arenas.....	Oct. 31-Nov. 30.....	3		Oct. 31, 1 case in vicinity.
China:				
Amoy.....	Jan. 16.....			Present.
Chungking.....	Nov. 3-16.....			Do.
Hankow.....	Dec. 29-Jan. 4.....	1		
Hongkong.....	Nov. 24-Jan. 4.....	6	4	
Nanking.....	Dec. 7.....			Present.
Shanghai.....	Nov. 18-Jan. 12.....	17	92	Deaths among natives.
Tientsin.....	Nov. 17-Dec. 14.....		2	
Dutch East Indies:				
Java—				
Batavia.....	Nov. 9-Dec. 28.....	16	1	
Samarang.....	Oct. 4-24.....	57	23	
Egypt:				
Alexandria.....	Dec. 9-31.....	2		
Cairo.....	Nov. 12-Dec. 31.....	7	3	
Port Said.....	Dec. 3-31.....	1	1	
France:				
Marseille.....	Nov. 1-Dec. 31.....		2	
Nantes.....	Jan. 5-18.....	2		
Paris.....	Dec. 1-Jan. 18.....	17		
Germany.....				Total: Nov. 24-30, 5 cases not included in report, page 2231, vol. xxvii; Dec. 1-Jan. 11, 15 cases.
Hamburg.....	Jan. 10-16.....	1		
Gibraltar.....	Dec. 9-15.....	1		
Great Britain: Liverpool.....	Jan. 1-4.....	1		
India:				
Bombay.....	Nov. 17-Jan. 4.....	14	6	
Calcutta.....	Dec. 1-14.....		11	
Karachi.....	Dec. 1-Jan. 4.....	3		
Madras.....	Dec. 1-28.....	4	3	
Rangoon.....	Oct. 1-Nov. 30.....	11	3	
Indo-China: Saigon.....	Aug. 20-Oct. 20.....	2	2	
Italy: Palermo.....	Dec. 15-Jan. 18.....	4		
Japan.....				Jan. 1-Nov. 30, 1911: Cases, 14; death, 1.
Yokohama.....	Jan. 1.....	1		From s. s. Pera from London via ports.
Mexico:				
Aguascalientes.....	Dec. 9-Jan. 12.....		4	
Chihuahua.....	Dec. 9-Jan. 5.....		2	
Durango.....	Dec. 1-31.....		15	
Guadalajara.....	Jan. 5-11.....	1		
Mazatlan.....	Jan. 1-7.....	2		
Mexico.....	Nov. 17-Jan. 4.....	36	15	
Salina Cruz.....	Nov. 17-Jan. 25.....	6	2	
San Luis Potosi.....	Sept. 15-21.....	1		
Sonora.....				Jan. 30: Present in Esperanza, Navojca, and Tarin.
Agua Zarca.....	Jan. 30.....	2		
Nogales.....	..do.....	1		
Netherlands: Rotterdam.....	Dec. 22-28.....		1	
Peru:				
Callao.....	Sept. 1-14.....			Present.
Lima.....	..do.....			Do.
Mollendo.....	Nov. 24-Dec. 7.....	5	1	
Salaverry.....	Dec. 4-11.....	1		

**CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX—Continued.****Reports Received from Dec. 27, 1912, to Feb. 14, 1913—Continued.****SMALLPOX—Continued.**

Places.	Date.	Cases.	Deaths.	Remarks.
Philippine Islands:				
Manila.....	Dec. 21.....			1 case removed from s. s. Mauban to the San Lazaro hospital.
Portugal: Lisbon.....	Dec. 1-Jan. 18....	29		
Roumania.....				Total Oct. 1-31: Cases, 6.
Russia:				
Libau.....	Dec. 16-Jan. 4....	2		
Moscow.....	Dec. 8-28.....	3	2	
Odessa.....	Nov. 17-Dec. 14....	3		
St. Petersburg.....	Nov. 24-Dec. 28....	96	10	
Warsaw.....	Sept. 22-Oct. 5....	5		
Servia: Belgrade.....	Dec. 22-28.....	2		
Siam: Bangkok.....	Nov. 10-Dec. 7....		3	
Siberia: Vladivostok.....	Oct. 28-Dec. 28....	4	3	
Spain:				
Almeria.....	Dec. 1-31.....		40	
Barcelona.....	Dec. 1-Jan. 28....		78	
Cadiz.....	Nov. 1-Dec. 31....		7	
Madrid.....	do.....		34	
Malaga.....	Dec. 1-31.....		1	
Seville.....	do.....		27	
Valencia.....	Nov. 14-Jan. 11....	39		
Straits Settlements: Singapore.....	Nov. 24-30.....	1	1	
Sweden: Stockholm.....	Oct. 8-21.....	3		
Switzerland:				
Cantons—				
Aargau.....	Dec. 15-21.....	1		
Basel.....	Nov. 14-Jan. 11....	11		
Grisons.....	Dec. 1-Jan. 4....	10		
Turkey in Asia: Beirut.....	Dec. 8-Jan. 18....	53	7	
Turkey in Europe: Constantinople.....	Dec. 1-Jan. 18....		84	
Zanzibar.....	Nov. 8-14.....		1	



# **SANITARY LEGISLATION.**

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## **STATE LAWS AND REGULATIONS PERTAINING TO PUBLIC HEALTH.**

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### **MINNESOTA.**

#### **Rabies—Control of (Regulations State Board of Health Adopted Since June 30, 1911).**

55. When an animal suspected of having rabies has bitten a human being the fact should be immediately reported to the local health officer, who shall secure or cause to be secured such animal alive and without injury where this can be accomplished with safety. The animal shall be confined in a safe, quiet, roomy, and comfortable place for a period of two weeks if death does not intervene. A report giving full particulars shall be sent immediately to the director of the laboratory division of the State Board of Health, University Campus, Minneapolis. This report shall include the name of the locality in which the biting occurred (city, village, or township); the date of biting; the name, residence, and address of the owner of the animal; the full name or names of the persons bitten, together with place of residence of each; the names, addresses, and residences of all owners of animals which have been bitten by the animal in question, together with a list and description of the animals bitten and the disposition made of same.

56. When it becomes necessary to kill such suspected animal, it must be done in such a way that no injury will be made to the brain or spinal cord. When an animal suspected of having rabies dies from the disease or is killed, the head and several inches of the neck must be cut off and sent to the director of the laboratories. It should be first wrapped in a clean piece of cloth and then carefully packed in a quantity of ice and sawdust, using such an amount of ice as will insure its reaching the laboratory in a cool condition.

57. All persons bitten by an animal suspected of having rabies should be sent at once to the Pasteur Institute of the Minnesota State Board of Health, located on the University Campus, Minneapolis, where the Pasteur preventive treatment against rabies will be given free of charge to residents of the State of Minnesota. Living accommodations must be provided by the individual bitten, or as previously provided. Further information when necessary may be obtained from the secretary and executive officer of the State board of health or from the Pasteur Institute. Full information on rabies may be obtained from a pamphlet issued by the Minnesota State Board of Health.

### **SOUTH DAKOTA.**

#### **Common Drinking Cups—Furnishing for Use in Public Places Prohibited (Regulation State Board of Health, Adopted May 1, 1912).**

No person, company or corporation, having charge or control of any hotel, restaurant, theater, hall, store, schoolhouse, church, station, railroad train, steam or electric car, or other institution or conveyance frequented by the public, or which may be used

for the purpose of a public assembly, or as a place of employment may be permitted drinking cup, or permit any cup, vessel, or other receptacle to be used by more than to furnish any cup, vessel or other receptacle to be used promiscuously as a common one person for the common, indiscriminate or promiscuous use or purpose of drinking therefrom.

#### WISCONSIN.

#### State Board of Health—Provisions for and Duties of (Chap. 636, Laws of 1911, Adopted July 12, 1911).

*Office in the capitol; supplies.*—SECTION 1. Section 1022-5 and 1022-16 of the statutes are amended to read: SECTION 1022-5. Suitable apartments shall be provided in the capitol by the superintendent of public property for the State board of health and vital statistics which shall be properly equipped with fire-proof vaults for the safe preservation of all the official records, and the superintendent of public property shall furnish the said board with all necessary office furniture. The superintendent of public property shall also furnish the said board with all the necessary office supplies, stationery, books, postage and other material, and such office supplies, stationery, books, postage and other material furnished shall be charged against the annual appropriation to said board of health and vital statistics.

*Subregistrars.*—SEC. 1022-16. The local registrar or his deputy in each city, incorporated village, and township shall serve as subregistrar for every local registrar in the State for the purpose of receiving death certificates and issuing burial permits. The subregistrar shall sign his name, with the date on which the certificate of death was filed with him, in the space beneath the place for the signature of the local registrar, and forward the certificate at once to the registrar of the district where the death occurred. All subregistrars who sign certificates of death and forward them at once to the proper local registrar shall receive a fee of 10 cents for each certificate, to be paid by the treasurer of the county upon the certification of the State registrar. If any certificate of death is incomplete or unsatisfactory, it shall be the duty of the subregistrar to withhold issuing the burial or removal permit to the undertaker until the necessary information is obtained or a satisfactory record furnished. Each subregistrar shall be liable to the same penalty for neglect of duty as the local registrar.

SEC. 2. Section 1022-17 of the statutes is repealed.

*Fees for local registrars.*—SEC. 3. Subsection 1 of section 1022-57 and section 1406 of the statutes are amended to read: (Sec. 1022-57) 1. For each complete certificate of each birth, death, marriage, or accident forwarded to the State registrar, together with a copy thereof transmitted to the register of deeds in accordance with the provisions of sections 1022-1 to 1022-59, inclusive, including the copy retained in cities and villages, the local registrar shall be paid the sum of 20 cents.

*Officers of the board; salary; printing; etc.*—SEC. 1406. A member of the board shall be chosen president thereof, and his term of office shall be fixed and determined by said board, and his duties shall be such as may be prescribed by the by-laws of said board or by the statutes of the State. The board shall also elect a secretary, either from their own number or otherwise, who shall hold his office subject to removal at discretion by a vote of five members of the board at a regular meeting, and while in office he shall be a member of the board. The secretary shall receive an annual salary to be fixed by the board, and he and each other member shall be reimbursed his traveling expenses actually and necessarily incurred in the performance of official duties. The members of said board, other than the secretary, shall be paid a compensation of \$10 per day, and expenses when actually and necessarily engaged outside the city or town in which such members respectively reside, on the performance of their official duties other than attendance upon the regular meetings of the board; such compensation to be paid on the certificate of the president and secretary of such board, but the compensation so to be paid to such members of the board, other

than the secretary, shall not in any one year exceed the sum of \$1,200. All printing required by the board in the performance of its duties shall be performed by the State printer upon the order of the president and secretary of said board, and the cost thereof shall be charged against the appropriation of said board.

SEC. 4. There are added to the statutes seven new sections, to read:

*State sanitary inspector.*—SEC. 1408m-1. In addition to the officials and appointees provided by sections 1404, 1406, and 1022-4 of the statutes, the State board of health is hereby empowered to provide for and establish in connection with the present public-health organization a State sanitary inspector.

*Right of inspection.*—SEC. 1408-2. It shall be the duty of the sanitary inspector to assist in promoting the work of the State board of health in such manner as the board may direct, to the end that the laws and rules adopted by said board for the preservation of the public health may be strictly enforced in the various parts of the State. The inspector shall have the same right of inspection in regard to all matters affecting the public health as has been or may be conferred upon the State or local boards of health.

*Duties of inspector.*—SEC. 1408m-3. The sanitary inspector shall, under the direction of the board and with full authority to act for the board, make thorough and complete investigations of nuisances, sources of sickness, infectious or contagious diseases, water supplies, and sewerage disposal systems, the sanitary condition of public buildings, jails, schoolhouses, school grounds, hotels, and such other work as is found necessary to improve the general sanitary and hygienic conditions. The inspector shall make special investigations concerning the prevalence of tuberculosis in any locality. He shall assist the State board of health in enforcing the laws and rules adopted by the board for the prevention, control, and reporting of tuberculosis.

*Reports and recommendations.*—SEC. 1408m-4. The inspector shall immediately after the completion of an investigation report in writing to the secretary of the State board of health a complete account of the essential facts disclosed by the investigation, together with the recommendations made and the work done to better safeguard the public health.

*Qualifications.*—SEC. 1408m-5. The sanitary inspector shall be a medical practitioner in good standing, holding a Wisconsin license, and must possess such other qualifications as the State board of health may determine are necessary in order to successfully carry on the work.

*Compensation; expenses.*—SEC. 1408m-6. The compensation of the inspector appointed under the provisions of section 1408m-1 to 1408m-7, inclusive, shall be fixed by the State board of health. All actual expenses incurred by the inspector in the discharge of his official duties shall be paid from the fund herein provided upon verified and itemized accounts to be audited and paid as the expenses of other State officers and employees are audited and paid.

*Appropriation.*—SEC. 1408m-7. There is annually appropriated to the State board of health and vital statistics, out of any money in the treasury not otherwise appropriated, the sum of \$20,600, or such part thereof as may be necessary, said appropriation to be in lieu of all other appropriations now provided for by law for said board, and all other laws or parts of laws appropriating money to the State board of health and vital statistics, in so far as the same appropriate money to the said board, are repealed.

SEC. 5. This act shall take effect and be in force from and after its passage and publication.

## **MUNICIPAL ORDINANCES, RULES, AND REGULATIONS PERTAINING TO PUBLIC HEALTH.**

### **ALEXANDRIA, VA.**

#### **Births and Deaths—Registration of (Ordinance Adopted July 23, 1912).**

SECTION 25. It shall be the duty of the health officer to keep a record of all births and deaths in the city, in accordance with the following provisions:

It shall be unlawful for any person to act as an accoucher or midwife in the city of Alexandria, without first obtaining a license from the commissioner of revenue of said city to practice midwifery.

Such license shall be issued by the commissioner of revenue as other licenses are issued upon the payment of the sum of \$1 to the treasurer of the city of Alexandria and upon producing a certificate signed by the health officer to the effect that the applicant has been examined by him and is deemed qualified to perform the services required in such cases.

And no person shall be deemed eligible to sign any birth certificates in the city of Alexandria unless such person shall hold a certificate from the State board of medical examiners, or a license to practice medicine, surgery, or midwifery, as above provided.

SEC. 26. The body of any person whose death occurs in the State shall not be interred, deposited in a vault or tomb, cremated, removed, or otherwise disposed of, or to be held pending further disposition, more than 72 hours after death or until a permit for burial, removal, or other disposition thereof shall have been properly issued by the health officer.

SEC. 27. No such burial or removal permit shall be issued by the health officer until a complete and satisfactory certificate of death has been filed with him as hereinafter provided. That when a dead body is brought into the city for burial, the transit permit which accompanies such body shall be filed with the health officer, who shall note the date and place of burial on such permit and forward the same to the State registrar.

SEC. 28. The stillborn children and those dead at birth shall be registered as births and also as deaths, and a certificate of both birth and death shall be filed with the local registrar, in the usual form and manner, the certificate of birth to contain, in place of the name of the child, the word "stillbirth." The medical certificate of the cause of death shall be signed by the attending physician, if any, and shall state the cause of the death as "stillborn," with the cause of the stillbirth, if known, whether a premature birth, and, if born prematurely, the period of uterine gestation, in months, if known; and a burial or removal permit in the usual form shall be required. Midwives shall not sign certificate of death for stillborn children; but such cases, and stillbirths occurring without attendance of either physicians or midwife, shall be treated as deaths without medical attendance, as provided for in section 30 of this act.

SEC. 29. The certificate of death shall be of the United States standard form as approved by the Bureau of the Census, and shall contain the following items:

1. Place of death, including State, county, township, city, the ward, street, and house number. If in a hospital or other institution, the name of the same to be given instead of the street and house number. If in an industrial camp, the name of the camp to be given.

2. Full name of decedent. If an unnamed child, the surname preceded by "unnamed."

3. Sex.

4. Color or race, as white, black (negro or negro descent), Italian, Chinese, Japanese, or other.

5. Conjugal condition, as single, married, widowed, or divorced.

6. Date of birth, including year, month, and day.

7. Age in years, months, and days. If less than one day, the hours and minutes.

8. Occupation to be reported of any person who had any remunerative employment, women as well as men, stating (a) trade, profession, or particular kind of work; (b) general nature of industry, business, or establishment in which employed (or employer).

9. Birth place, State or foreign country.

10. Name of father.

11. Birthplace of father, State or foreign country.

12. Maiden name of mother.

13. Birthplace of mother, State or foreign country.

14. Name and address of informant.

15. Official signature of registrar, with the date when certificate was filed, register number.

16. Date of death, year, month, and day.

17. Statement of medical attendance on decedent, fact and time of death, time last seen alive, and cause of death, with contributory cause (secondary) or complication, if any, and duration of each, and if attributed to dangerous or insanitary conditions of employment; signature and address of physician or official making the medical certificate.

18. Length of residence (for hospitals, institutions, transients, or recent residents) at place of death, or in the State.

19. Place of burial or removal, date of burial.

20. Signature and address of an undertaker.

The personal and statistical particulars (items 1 to 13) shall give the name and address of the informant, who may be any competent person acquainted with the facts.

The statement of facts relating to the disposition of the body shall be signed by the undertaker, or person acting as such.

SEC. 30. In case of death occurring without medical attendance, the undertaker or other person acting as such shall notify the health officer, and when so notified the health officer shall inform a member of the board of health and refer the case to him for immediate investigation and certification prior to issuing a permit; provided that if such member of the board of health does not within 24 hours certify such death, the health officer is authorized to make the certificate and return from the statement of relatives or other persons having adequate knowledge of the facts; provided further, that if the death is caused by unlawful or suspicious means, the health officer shall then refer the case to the coroner for his investigation and certification and the coroner shall state in his certificate the name of the disease causing the death, or if from external causes, (1) the means of death, (2) whether accidental, suicidal, or homicidal.

SEC. 31. The undertaker or person acting as undertaker shall be responsible for obtaining and filing the certificate of death with the health officer and for securing a burial or removal permit prior to any disposition of the body, except as otherwise provided in this act. He shall obtain personal and statistical particulars and the medical certificate of the cause of death, and other particulars necessary to complete the record as specified in sections 29 and 30.

SEC. 32. The undertaker shall deliver the burial permit to the sexton or person in charge of the place of burial before interring or otherwise disposing of the body. If



the interment or other disposition of the body is to be made within the State, the wording of the burial permit may be limited to a statement by the health officer, over his signature, that a satisfactory certificate of death having been filed with him permission is granted to inter, remove, or otherwise dispose of the deceased.

Each sexton or person in charge of any burial ground shall indorse upon the permit the date of the interment, over his signature, and shall return all permits so indorsed to the health officer within 10 days from date of interment. Every sexton of a public cemetery shall keep a record of all interments made in the premises under his charge, stating the name of the deceased person, place of death, date of burial, and name and address of the undertaker.

Sec. 33. That all births that occur in the State shall be immediately registered as hereinafter provided.

That it shall be the duty of the attending physician or midwife to file a certificate of birth, properly and completely filled out, giving all the particulars required by this act, with the health officer, within 10 days after date of birth.

That the certificate of birth shall contain the following items:

1. Place of birth, including State, county, magisterial district, town, or city. If in a city, the ward, street, and house number; if in a hospital or other institution, the name of the same to be given instead of street and house number.

2. Full name of child. If the child dies without a name, before the certificate is filed, enter the words "died unnamed." If the living child has not been named at the date of filing certificate of birth, the space for full name of child is to be left blank to be filled out subsequently by supplemental report, as hereinafter provided.

3. Sex of child.

4. Whether a twin, triplet, or other plural birth. A separate certificate shall be required for each child in case of plural birth, giving number of child in order of birth.

5. Whether legitimate or illegitimate.

6. Full name of father, except for illegitimate children.

7. Residence of father.

8. Color or race of father.

9. Birthplace of father, State or foreign country.

10. Age of father at last birthday, in years.

11. Occupation of father.

12. Maiden name of mother.

13. Birthplace of mother, State or foreign country.

14. Age of mother at last birthday, in years.

15. Occupation of mother.

16. Number of child of this mother, and number of children of this mother now living.

17. Born at full term.

18. The certificate of attending physician or midwife as to attendance at birth, including statement of year, month, and day and hour of birth, and whether the child was alive or dead at birth. This certificate shall be signed by the attending physician or midwife, with date of signature and address; if there is no physician or midwife in attendance, then the father or mother of the child, householder or owner of the premises, or manager or superintendent of public or private institution, or other competent person, whose duty it shall be to notify the local registrar of such birth, as required by section 33 of this act.

19. Exact date of filing in office of local registrar, attested by his official signature, and registered number of birth, as hereinafter provided.

It shall be the duty of the health officer to supply blank forms of certificates to such persons as require them, and he shall carefully examine each certificate of birth or death, when presented for record, and if same is incomplete or unsatisfactory, it shall



be his duty to withhold issuing burial or removal permit until same is corrected or explained. He shall number consecutively the certificate of birth and death in two separate series, giving date of each birth and death, beginning with the number one for the first birth and first death in each calendar year. He shall also make a complete and accurate copy of each birth and death certificate registered by him in a book to be kept for that purpose, and shall within 15 days after the end of each calendar year transmit said book to the clerk of the corporation court to be preserved by the clerk as a permanent record.

SEC. 34. That any physician who was in medical attendance upon any deceased person at the time of death who shall willfully neglect or refuse to make out and deliver to the undertaker, sexton, or other person in charge of the interment, removal, or other disposition of the body, upon request, the medical certificate of the cause of death, hereinbefore provided for, shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be fined not less than \$5 nor more than \$50. And if any physician shall knowingly make a false certification of the cause of death, in any case, he shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be fined not less than \$50 nor more than \$200.

Any physician or midwife in attendance upon a case of confinement, or any other person charged with responsibility for reporting births in the order named in section 30 of the act, who shall willfully neglect or refuse to file proper certificate of birth with the local registrar within the time required by this act shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be fined not less than \$1 nor more than \$10.

And any undertaker, sexton, or other person acting as undertaker, who shall inter, remove, or otherwise dispose of the body of a deceased person without having received a burial or removal permit as herein provided shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be fined not less than \$1 nor more than \$10.

And any other person or persons who shall willfully violate any of the provisions of this act, or shall willfully neglect to perform the duties imposed upon them by the provisions of this act, or shall furnish false information to a physician, undertaker, midwife, or informant for the purpose of making incorrect certification of births or deaths, shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be fined not less than \$5 nor more than \$100.

#### BAYONNE, N. J.

##### Nuisances—Definition of (Regulation Board of Health Adopted June 20, 1912).

SEC. 2. Nuisances are hereby defined and declared and shall include and embrace:

1. The placing or depositing, or allowing to remain in or upon any street or public place, or in or upon any open lot or public or private property, any dead animals or any part of the same, or any offal or garbage, or any carrion or putrid meat, or manure or compost (stable manure used as a fertilizer, or kept in manure piles built as herein-after directed, excepted), or any foul or offensive or obnoxious substances whatsoever.

2. The throwing upon, or allowing to flow from any premises upon any street or public place, open lot or public or private property, or the allowing to collect upon the surface of any premises any waste water, dirty water, slops, stable drainage, liquid filth, overflow from cesspools or privy vaults, or any offensive liquid matter whatsoever.

3. Any full, foul, or leaky privy vault or cesspool or other receptacle for filth; also any privy vault, cesspool, or catch basin which is beneath any dwelling or other building, or is attached to the foundation wall of any dwelling or other building.

4. Allowing or permitting any night soil, garbage, or any offensive or decomposing solid or fluid matter or substance to leak, or ooze, or escape from any cart, wagon, or vessel in which the same may be conveyed or carried.

5. The carrying or conveying through any street any substance which has been removed from any vault or cesspool, unless the same shall be inclosed in air-tight receptacles.

6. Whatever is dangerous to human life or health, whatever building, erection, or part or cellar thereof is not provided with adequate means of ingress or egress, or is not sufficiently supported, ventilated, drained, cleaned, or lighted, and whatever renders the air, food, or water unwholesome.

7. Any imperfect trap, sink, or water-closet within any house, or any other drainage appliance or fixture within any house, from which there shall rise any foul or obnoxious gasses or odors.

8. All sunken lots or marsh lands, or lots below grade, where stagnant water gathers or is collected.

#### BELLEVUE, OHIO.

#### Board of Health—Organization and Meetings (Regulation Board of Health Adopted Mar. 21, 1912).

SECTION 1. *Time of meeting fixed by the board.*—The regular meetings of the Bellevue Board of Health shall be the second and last Friday of each month at 8 p. m.

SEC. 2. *Standing committees.*—The president shall appoint the following standing committees: Laws, rules, and regulations; finance; sanitary; registration of vital statistics; plumbing and nuisances; water, food supplies, and dairies; contagious and infectious diseases and hospitals; refuse disposal.

SEC. 3. *The order of business shall be—*

Roll call of members.

Reading of minutes.

Audience with persons having business with the board.

Report of health officer.

Report of clerk.

Reports of standing committees: Laws, rules, and regulations; finance; sanitary; registration of vital statistics; plumbing and nuisances; water, food supplies, and dairies; contagious and infectious diseases and hospitals; refuse disposal; reports of special committees; unfinished business; new business; adjournment.

#### CHELSEA, MASS.

#### Milk—Care and Sale (Regulation Board of Health, Adopted July 2, 1912).

RULE 115, SEC. 2. No person or corporation shall sell or offer, expose or keep for sale in any shop, store, or other place, milk or cream, unless the same is sold or offered, exposed, or kept for sale in tightly closed or capped bottles or receptacles. Nothing contained herein shall prevent the sale of milk or cream from cans, crocks, coolers, or other receptacles in restaurants, hotels, barrooms, or at soda fountains when the milk or cream is to be consumed in the restaurant or hotel by guests or patrons ordering the same.

#### DES MOINES, IOWA.

#### Tuberculosis and Typhoid Fever—Notification of Cases and Prevention of (Ordinance Adopted Nov. 11, 1912).

SECTION 1. It shall be the duty of every physician in the city of Des Moines to report in writing to the health department within 24 hours after the disease is recognized, on forms to be provided by said health officer, the name, age, sex, color, occupation, and address of every person under his care in said city who, in his opinion, is afflicted with pulmonary or other communicable form of tuberculosis. It shall be the duty also of the officer having charge for the time being of each and every hospital, dispensary, asylum, or other similar public or private institution in said city to report

in like manner the name, age, sex, color, occupation, and last address of every person who is in his care or who has come under his observation within one week of such time who, in his opinion, is afflicted with pulmonary or other communicable form of tuberculosis or with typhoid fever.

SEC. 2. That the health officer of said city shall cause all cases showing the presence of tubercle bacilli to be recorded in a register of which he shall be the custodian, which register shall not be open to inspection by anyone except the health officer and deputy health officer of said city, and neither said health officer nor said deputy health officer shall permit any such record to be divulged in such manner as to disclose the identity of the person to whom it relates except as it may be necessary in carrying out the provisions of this ordinance.

SEC. 3. That in case of death from pulmonary or other communicable form of tuberculosis, or the removal from any apartment or premises of a person or persons so afflicted, it shall be the duty of the attending physician, if he has such knowledge, or, if there be no such physician or if such physician be absent, of the occupant or other person in charge of said apartment or premises to notify the health department in writing of such death or removal within 24 hours.

SEC. 4. Every person so afflicted with tuberculosis, and every person in attendance upon anyone afflicted therewith, and the authorities of public and private institutions or dispensaries in said city must observe and enforce all sanitary rules and regulations of the health department of the city of Des Moines for preventing the spread of the disease.

SEC. 5. That upon the recovery of any person who has been found to be suffering from tuberculosis or typhoid, a report to that effect to the health department made by the attending physician, shall be recorded in the register aforesaid, and shall relieve said person from further liability to any requirements imposed by this ordinance.

SEC. 6. Upon the termination or recovery or within three days thereafter of any case of tuberculosis or typhoid fever, the owner or person in charge where such disease existed shall cause said premises to be thoroughly fumigated under the direction of the health department, and any such premises shall not be rented, leased or sold, or occupied with the knowledge of the said owner or agent until said fumigation shall have been completed.

SEC. 7. Any person, firm, or corporation violating any of the provisions of this ordinance shall be deemed guilty of a misdemeanor and upon conviction thereof shall be fined not less than \$5 nor more than \$100 and stand committed for a period of not less than one day nor more than 30 days in the city jail.

SEC. 8. All ordinances or parts of ordinances in conflict herewith are hereby repealed.

SEC. 9. This ordinance shall be in full force and effect from and after its passage and publication as required by law.

#### LOS ANGELES, CAL.

#### Vicious and Dangerous Animals (Ordinance Adopted May 1, 1912).

SEC. 38. It shall be unlawful for any person, firm, or corporation owning or having charge, custody, control, or possession of any vicious dog or other vicious or dangerous animal to permit or allow the same to go free or unrestrained in, along, or upon any public street or other public place.